



RAW SEQUENCE LISTING ERROR REPORT

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Application Serial Number: 09/892,635
Source: OIE
Date Processed by STIC: 3/20/2003

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FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

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Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>>), EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
Or
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
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Revised 01/29/2002



OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/892,635

DATE: 03/20/2003

TIME: 11:22:24

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

3 <110> APPLICANT: MAY, Gregory D.
4 CLENDENNEN, Stephanie K.
5 MASON, Hugh S.
6 GOMEZ LIM, Miguel A.
7 ARNTZEN, Charles J.
9 <120> TITLE OF INVENTION: DNA Regulatory Elements Associated with Fruit Development
11 <130> FILE REFERENCE: 031998-007
13 <140> CURRENT APPLICATION NUMBER: US/09/892,635
14 <141> CURRENT FILING DATE: 2001-06-28
16 <150> PRIOR APPLICATION NUMBER: US 09/160,351
17 <151> PRIOR FILING DATE: 1998-09-25
19 <150> PRIOR APPLICATION NUMBER: US 60/060,062
20 <151> PRIOR FILING DATE: 1997-09-25
22 <160> NUMBER OF SEQ ID NOS: 45
24 <170> SOFTWARE: PatentIn version 2.0

Docket No. 100-1000
Corrected Diskette Needed
Errors throughout

*Per Sequence Rec
only one file
is to be used*

Does Not Comply
Corrected Diskette Needed
errors throughout

Per Sequence Rules,
only one file
is to be
submitted
on disk

ERRORED SEQUENCES

2135 <210> SEQ ID NO: 24
 2136 <211> LENGTH: 2326
 2137 <212> TYPE: PRT
 2138 <213> ORGANISM: Musa acuminata
 2139 <214> SEQUENCE: 24
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 2142 20 25 30
 2143 25 30 35
 2144 Ala Val Ser Asn Thr Gln Ser Val Xaa Leu Val Thr Gly Leu Leu Ile
 2145 35 40 45
 2146 45 50 55
 2147 Gln Arg Leu Ala Ser Ala Ile Ser His Ile His Leu Ile Trp Ser Ile
 2148 55 60 65
 2149 60 65 70
 2150 Gly Ser Phe Thr Ala Gly Arg Asn Pro Phe Leu Tyr Ile Ser Thr Thr
 2151 70 75 80
 2152 75 80 85
 2153 Asn Ala Glu Gly Lys Pro Gly Gly Leu Ser Ala Pro Ala Gly Cys Ala
 2154 85 90 95
 2155 90 95 100
 2156 Val Ala Ser Thr Ala Gly Ala Val Thr Arg Ile His Thr Ala Ala Lys
 2157 100 105 110
 2158 105 110 115
 2159 Asp Ala Arg Ala Asn Ala Ala Val Ala Ala Val Ala Ala Val Ala Ala
 2160 115 120 125
 2161 120 125 130
 2162 130 135 140
 2163 135 140 145
 2164 Ser Pro Pro Pro Thr Pro Ser Ala Gly Ser Gly Arg Pro Ala Thr Thr

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Input Set : A:\pto.amc.txt
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2171 145 150 155 160
E--> 2173 Gln Glu Glu Xaa Gly Asp Arg Gly Phe Leu Gly Ala Xaa Val Ser Arg
2174 165 170 175
E--> 2176 Xaa Asp Arg Phe Xaa His Leu Pro Lys Leu Val Asn Cys Leu Trp Asp
2177 180 185 190
E--> 2179 Xaa Lys Leu Asn Val Trp Gly Leu Ala Gly Gly Xaa Ala Thr Arg Pro
2180 195 200 205
E--> 2182 Met Val Arg Thr Pro Trp Val Thr Ala Ser Ser Xaa Asn Lys Thr Leu
2183 210 215 220
E--> 2185 Ile Gly Xaa Leu Arg Pro Xaa Ser Xaa Trp Pro Cys Ala Ala Ala Lys
2186 225 230 235 240
E--> 2188 Asn Thr Thr Ala Glu Ala Xaa Pro Asn Phe Xaa Val Ser Xaa Ile Leu
2189 245 250 255
E--> 2191 Thr Val Xaa Arg Arg Asp Arg Val His Asn Asp Ala Xaa Ser Asn Ala
2192 260 265 270
E--> 2194 Thr Ile Arg Cys Val Xaa Arg Ala Ala Xaa Thr Xaa Thr Gly Arg Pro
2195 275 280 285
E--> 2197 Gly Glu Pro Ser Val Xaa Thr Xaa Ser Thr Thr Gln Thr Trp Trp Pro
2198 290 295 300
E--> 2200 Xaa Thr Arg Pro Ser Xaa Ser Arg Arg Xaa Cys Gly Phe Gly Leu Xaa
2201 305 310 315 320
E--> 2203 Ser Arg Pro Ser Arg Xaa Ala Thr Thr Pro Gly Ala Gly Arg His Pro
2204 325 330 335
2206 Thr Pro Thr Arg Arg Pro Glu Gly Phe Arg Ala Thr Val Ser Pro Pro
2207 340 345 350
2209 Thr Ser Ser Met Glu Gly Trp Ser Ala Gly Lys Gly Thr Met Pro Gly
2210 355 360 365
2212 Trp Arg Ile Gly Ser Ala Ser Thr Arg Gly Thr Ala Thr Cys Trp Gly
2213 370 375 380
2215 Ala Thr Glu Thr Thr Trp Thr Ala Thr Thr Arg Asp Pro Leu Leu
2216 385 390 395 400
2218 Gln Gln Leu Gln Pro His Ser Ser Gly Glu Leu Trp Arg Gln Leu Gly
2219 405 410 415
2222 Val Leu Gln Pro Glu Thr Leu Tyr Leu Val Arg Tyr Tyr Cys Asp Glu
2223 420 425 430
2225 Ser Met Arg Asn Lys Arg Tyr Tyr Asp Ser Asp Ser Val Ser Leu Lys
2226 435 440 445
E--> 2228 Leu Arg Arg Lys Ser Ser Ile Lys Ala Xaa Leu His Thr Trp Pro Thr
2229 450 455 460
2231 Thr Ile Val Asp Arg Asp His Met His Pro Ser Asn Val Leu Lys Cys
2232 465 470 475 480
2234 Leu Gly Val Ser Lys Cys Val Phe Asp Arg Asn Glu Asp Val Arg Ile
2235 485 490 495
2237 Asn Lys Ile Asn Tyr Phe Phe Ile Ile Asn Ile Leu Ile Tyr Phe
2238 500 505 510
2240 Leu Ile Leu Lys Ile Leu Lys Ile Leu Gly Phe Tyr Ile Trp Ile Gly
2241 515 520 525
2243 Ile Leu Arg Ile Phe Asn Tyr Lys Asn Tyr Thr Phe Ser Arg Ser Asn
2244 530 535 540

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2246 Tyr Lys Tyr Phe Leu Tyr Gly Leu Gly Tyr Leu Asp Leu Leu Ile Lys
2247 545 550 555 560
2249 Ile Leu Ile Lys Phe Ile Lys Leu Lys Tyr Lys Tyr Leu Asn Ile Thr
2250 565 570 575
2252 Val Ile Met Arg Ser Arg Thr Leu Arg Ser Asp Arg Gly Glu Lys Gly
2253 580 585 590
2255 Asn Tyr Val Asn His Gly Lys Phe Arg Phe Val Cys Thr Val Glu Met
2256 595 600 605
2258 Val Thr Val Asp Thr His Pro Gln Pro Ala Cys Asn Asn His Val Val
2259 610 615 620
2261 Ile Cys Leu Val Ser Tyr Leu Met Thr Met Asn His Ile Val Phe Thr
2262 625 630 635 640
E--> 2264 Asn Ile Asn Ala Ser Leu Ala Ser Gln Phe Cys Thr Phe Val Pro Xaa
2265 645 650 655
2267 Leu Lys Cys Ser Tyr Gly Leu Thr His Pro Glu Cys Met Val Ser Arg
2268 660 665 670
E--> 2270 Xaa Leu Glu Arg Val Asn Pro Arg Ser Ser Gly Ala Thr Leu Xaa Ser
2271 675 680 685
2273 Ala Glu Val Glu Asp His Ser Phe Ser Tyr Pro Leu Gly Ala Tyr Ile
2274 690 695 700
E--> 2276 Lys Val Glu Ile Met Arg Gly Ile Xaa Asn Ser Thr Tyr Ser Ile Phe
2277 705 710 715 720
2279 Glu Leu Ala Arg Val Gly Val Thr Cys Met Arg Phe Asp Pro Gln Cys
2282 725 730 735
2284 Ser Ser Trp Gly Arg Phe Tyr Thr Tyr Ser Cys Met Ser Tyr Ile Val
2285 740 745 750
2287 Ala Leu Ile Ile Phe Ser His His Arg Thr Leu Gly Ala Cys Ile Val
2288 755 760 765
E--> 2290 Phe Thr Arg Phe Asn Xaa Val Arg His Cys Phe Leu Pro Thr Met Trp
2291 770 775 780
2293 Pro Asn Thr Leu Tyr Cys Leu Ile Arg Pro Arg Ala Lys Arg Val Gln
2294 785 790 795 800
2296 Arg Asn Cys Val Lys Trp Leu Ala Gly Leu Gly Leu Met Ala Leu Ser
2297 805 810 815
2299 Trp Leu Asp Thr Thr His Arg Leu Arg Asp Thr Met Pro Ser Leu Leu
2300 820 825 830
2302 Trp Leu Thr Cys His Val Gly Trp Met Pro Lys Tyr Ala Ile Ser Phe
2303 835 840 845
2305 Ser Pro Tyr Lys Gly Val Val Pro Glu Asn Arg Gly His Gly Leu Gly
2306 850 855 860
2308 Ser Val Val Gly Pro Cys Ser Pro Gln Leu Gly Gly Leu Leu His Gln
2309 865 870 875 880
E--> 2311 Val Gly Xaa Leu Leu Ala Gly Gln Ser Thr Leu Gly Arg Asp Gly Arg
2312 885 890 895
E--> 2314 Asp Lys Xaa Lys Glu Gly Trp Leu Arg Leu Gly Phe Arg Gln Ser Ile
2315 900 905 910
2317 Val Tyr Glu Ala Asn Gly Ile Pro Pro Leu Gly Cys Leu Leu Val Ser
2318 915 920 925
2320 Ile Cys Cys Asp Gly Leu Phe Val Val Gly Gly Leu Val Arg Leu Leu

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Input Set : A:\pto.amc.txt
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2321	930	935	940
E--> 2323	Leu Ser Arg Glu Lys Val Phe Xaa Lys Glu Phe Asn Leu Thr Met Leu		
2324	945	950	955
2326	Lys Ile Lys Gly Leu Ala Lys Lys Phe Gly Ser Thr Val Leu Lys Pro		960
2327	965	970	975
2329	Glu Asn Val Tyr Val Glu Val Tyr Ser Thr Met Trp Lys Leu Glu Asn		
2330	980	985	990
2332	Ala Pro Ile Val Arg Phe Gly Leu Leu Thr Phe Lys Ala Glu Gly Tyr		
2333	995	1000	1005
2335	Thr Cys Tyr Glu Val Cys Ser Thr Met Trp Lys Gln Ser Asn Ala Leu		
2336	1010	1015	1020
E--> 2338	Ala Met Arg Phe Gly Leu Thr Tyr Ser Thr Met Asp Ala Xaa Lys Glu		
2339	1025	1030	1035
E--> 2342	Gly Thr Xaa Gln Asp Leu Val Gly Lys Asp Ser Ile Leu Ala Arg Gln		1040
2343	1045	1050	1055
2345	Met Pro Ile Gly Asn Gly Leu Thr Glu Thr Ser Thr Lys Thr Ser Asp		
2346	1060	1065	1070
2348	Leu Val Gly Asn Gly Cys Leu Val Arg Lys Asp Gly Ser Arg Leu Ile		
2349	1075	1080	1085
2351	Lys Ile Lys Leu Ile Ile Tyr Gln Thr Leu Asn Gly Arg Ile Val Arg		
2352	1090	1095	1100
2354	Lys Asp Gly Ser Arg Leu Ile Lys Ile Lys Leu Ile Val Tyr Gln Thr		
2355	1105	1110	1115
2357	Leu Ile Thr Leu Asp Lys Arg Gly Thr Met Tyr Asn Trp Glu Ala Gln		1120
2358	1125	1130	1135
2360	Ile Leu Phe Pro Asn Thr Phe Leu Leu Lys Pro Phe Ala Thr Ile Ala		
2361	1140	1145	1150
E--> 2363	Ile Leu Ile Tyr Phe Phe Tyr Ile Ile Ile Xaa His Ser Tyr Met Arg		
2364	1155	1160	1165
E--> 2366	Tyr Asp Ile Asn Leu Arg Pro Ala Leu Val Asn Xaa Leu Ile Xaa Val		
2367	1170	1175	1180
2369	Thr Pro Glu Ala Ile Ile Leu Thr Leu Thr Trp Arg Thr Leu Val Gly		
2370	1185	1190	1195
E--> 2372	Pro Xaa Ile Xaa Met Glu Val Asp Lys His Asp Asp Asp Gly Tyr Met		1200
2373	1205	1210	1215
2375	Phe Met Cys Leu Ser Lys Ser Ile Lys Leu Glu Ser Asn Lys Thr Ile		
2376	1220	1225	1230
2378	Lys Val Gly Arg Pro Leu Ser Ser Met Ser Arg Ser Ser Thr Phe Gln		
2379	1235	1240	1245
2381	His Arg Ala Glu Arg Ser Tyr Leu Thr Leu Thr Cys Pro Ser Gly Arg		
2382	1250	1255	1260
2384	Arg His Arg Leu Ala Glu Thr Lys Gly Gln Ser Pro Asn Ser His Ser		
2385	1265	1270	1275
2387	Lys Asp Glu Phe Ile Phe Ile Arg Ala Leu Gln Ser Cys Leu Ile Ile		1280
2388	1285	1290	1295
2390	Phe Tyr Tyr Tyr Tyr Tyr Tyr Leu Asn Gly Lys Phe Thr Glu Tyr Ile		
2391	1300	1305	1310
2393	Asp Ile Leu Val Ser Ile Lys Tyr Phe Lys Lys Arg Glu Lys Val Asp		
2394	1315	1320	1325

*Same
Error*

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2396 Leu Ile Leu Gly Phe Leu Leu Ala Ile Lys Val Phe Ser Asn Phe Gln
 2397 1330 1335 1340
 2399 Asn Val Ser Asn Glu Pro Val Gly Leu Val Tyr Gly Tyr Asp Glu Ile
 2402 1345 1350 1355 1360
 2404 Ser Ile Cys Ile Lys Asn Tyr Gln Leu Asp Phe Tyr Phe Leu Thr Leu
 2405 1365 1370 1375
 2407 Asn Lys Trp Thr Tyr Ile Ile Lys Ser Cys Asp Val Val Ile Thr
 2408 1380 1385 1390
E--> 2410 Tyr Phe Leu Ile Xaa Lys Ile Xaa Asn Arg Glu Lys Ile Arg Leu Leu
 2411 1395 1400 1405
E--> 2413 Ser Leu Leu Xaa Met Xaa Tyr Asn Ile Leu Ile Pro Phe Xaa Ile Asp
 2414 1410 1415 1420
 2416 Ser Arg Arg Ile Arg Lys Ile Ile Ile Ala Ser Asn Gln Ile Gln Asn
 2417 1425 1430 1435 1440
E--> 2419 Xaa Ile Met Leu Leu Thr Phe Glu Lys Ser Ser Ser Leu Asp Asn Ile
 2420 1445 1450 1455
E--> 2422 Leu Ile Asp Lys His Xaa Tyr Ile Tyr Ile Tyr Xaa Tyr Gln Leu Leu
 2423 1460 1465 1470
E--> 2425 Lys Xaa Ile Phe Lys Leu Ile Lys Phe Ile Lys Ile Lys Arg Thr Lys
 2426 1475 1480 1485
E--> 2428 Leu Val Leu His His Asn Val Val Ser Val Arg Thr Cys Glu Ile Xaa
 2429 1490 1495 1500
 2431 Ile Asn Thr Asp Arg Lys Phe Gln Thr Ile Thr Ser Ser Thr Lys Gln
 2432 1505 1510 1515 1520
 2434 Asn His Ile Lys Glu Ser Ser Tyr Ile Tyr Ile Tyr Ile Tyr Thr Thr
 2435 1525 1530 1535
 2437 Leu Leu Ile Leu Trp Thr Tyr Asn Thr Ser Gln Glu Thr Glu Thr Lys
 2438 1540 1545 1550
E--> 2440 Val Ala Glu Ser Trp Gln Xaa Leu Lys Arg Leu Phe Val Glu Val Lys
 2441 1555 1560 1565
 2443 Glu Thr His Val Tyr Lys Asn Cys His Asp Tyr Thr Leu Lys Lys Lys
 2444 1570 1575 1580
 2446 Arg Gly Glu Arg Glu Lys Glu Ala Pro Leu Leu Thr Gly Leu Val His
 2447 1585 1590 1595 1600
 2449 Glu Glu Leu Phe Val Asp Ala Val Gln Thr Phe Val Ser Thr Asp Gly
 2450 1605 1610 1615
 2452 Asn Lys Glu Ala Val Ser Gln His Ala Ile Cys Ser Leu Trp Ser Pro
 2453 1620 1625 1630
 2455 Asp Leu Ser Lys Asp Leu Pro Leu Arg Phe Pro His Ala Pro His Leu
 2456 1635 1640 1645
 2458 Phe Gln Arg Lys Leu His Ser Gly Gln Glu Ser Ile Ser Leu Tyr Lys
 2459 1650 1655 1660
 2462 His His Leu Pro Pro Thr Pro Pro Pro Pro Pro Leu Leu Arg Arg
 2463 1665 1670 1675 1680
 2465 Met Lys Ala Leu Leu Leu Val Ile Phe Thr Leu Ala Ser Ser Leu Gly
 2466 1685 1690 1695
 2468 Ala Phe Ala Glu Gln Cys Gly Arg Gln Ala Gly Gly Ala Leu Cys Pro
 2469 1700 1705 1710
 2471 Gly Gly Leu Cys Cys Ser Gln Tyr Gly Trp Cys Gly Asn Thr Asp Pro

Dane

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2472	1715	1720	1725
E--> 2474 Xaa Cys Gly Gln Gly Cys Xaa Xaa Gln Cys Xaa Xaa Ser Thr Pro Ser			
2475	1730	1735	1740
E--> 2477 Pro Ser Thr Pro Ser Gly Gly Gly Xaa Val Gly Ser Ile Ile Ile Ser			
2478	1745	1750	1755
E--> 2480 Ser Leu Phe Xaa Gln Met Leu Lys His Xaa Xaa Asp Xaa Ala Xaa Pro			
2481	1765	1770	1775
E--> 2483 Gly Xaa Gly Phe Tyr Xaa Xaa Thr Ala Phe Ile Ser Ala Ala Xaa Ser			
2484	1780	1785	1790
E--> 2486 Phe Xaa Gly Phe Gly Thr Thr Xaa Asp His Ser Thr Asn Xaa Xaa Xaa			
2487	1795	1800	1805
E--> 2489 Ile Xaa Ala Phe Leu Val Xaa Thr Ser Xaa Glu Thr Thr Xaa Asn Pro			
2490	1810	1815	1820
E--> 2492 Xaa Xaa Ser Arg Gly Ser Ser Xaa Xaa Tyr Xaa Thr Xaa Xaa Cys Ile			
2493	1825	1830	1835
E--> 2495 Gly Xaa Gly Thr Trp Val Val His Arg Ala Xaa Trp Pro Phe Ala Trp			
2496	1845	1850	1855
E--> 2498 Gly Tyr Cys Phe Val Gln Xaa Gln Asn Pro His Arg Thr Thr Ala Ser			
2499	1860	1865	1870
E--> 2501 Pro Ala Arg Xaa Gly Arg Ala Leu Xaa Ala Xaa Asn Thr Thr Ala Glu			
2502	1875	1880	1885
2504 Ala Pro Ser Lys Ser His Ser Thr Thr Thr Gly Arg Pro Gly Lys			
2505	1890	1895	1900
2507 Pro Ser Ala Pro Thr Cys Ser Thr Thr Gln Thr Trp Trp Pro Pro Thr			
2508	1905	1910	1915
2510 Arg Pro Ser Pro Ser Arg Arg Leu Cys Gly Ser Gly Leu Leu Ser Arg			
2511	1925	1930	1935
2513 Pro Ser Arg Arg Ala Thr Thr Pro Gly Ala Gly Arg His Pro Thr Pro			
2514	1940	1945	1950
2516 Thr Gly Arg Pro Glu Gly Phe Arg Ala Thr Val Ser Pro Pro Thr Ser			
2517	1955	1960	1965
2519 Ser Met Glu Gly Trp Ser Ala Gly Lys Gly Pro Met Pro Gly Trp Arg			
2522	1970	1975	1980
E--> 2524 Ile Gly Ser Ala Ser Thr Xaa Gly Thr Ala Thr Cys Trp Gly Ala Thr			
2525	1985	1990	1995
E--> 2527 Glu Thr Thr Trp Thr Ala Thr Thr Xaa Val Pro Leu Leu Xaa Pro Ile			
2528	2005	2010	2015
2530 Leu Cys Ala Asn Pro Cys Asn Asn Ala Ile Asn Ala Thr Ala Glu Ile			
2531	2020	2025	2030
2533 Ala Thr Pro Val Asp Cys Arg Ser Cys Gly Gly Asn Leu Gln Lys Leu			
2534	2035	2040	2045
2536 Ser Thr Ser Ser Trp Pro Ser Ile Ile Val Asp Arg Arg Gln Met His			
2537	2050	2055	2060
E--> 2539 Pro Ser Asn Val Leu Glu Xaa Val Asn Ala Xaa Ser Ile Gly Lys Leu			
2540	2065	2070	2075
2542 Lys Met Leu Glu Ile Lys Leu Phe Ile Phe Tyr Asn Tyr Lys Tyr Phe			
2543	2085	2090	2095
E--> 2545 Asn Ile Phe Phe Asn Leu Lys Asp Pro Lys Lys Ser Xaa Tyr Lys Asp			
2546	2100	2105	2110

Dane
Erin

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E--> 2548 Phe Ile Tyr Gly Leu Gly Tyr Xaa Xaa Xaa Ile Xaa Lys Ile Asn Ile
 2549 2115 2120 2125
 2551 Leu Leu Ile Leu Arg Ile Leu Lys Lys His Asn Tyr Lys Asp Phe Leu
 2552 2130 2135 2140
 E--> 2554 Tyr Gly Xaa Gly Tyr Gln Xaa Xaa Ile Val Lys Ile Xaa Ile Asn Cys
 2555 2145 2150 2155 2160
 E--> 2557 Ile Lys Leu Lys Tyr Lys Tyr Ile Xaa Ile Met Ile Ser Arg Met Trp
 2558 2165 2170 2175
 E--> 2560 Arg Leu Asp Leu Glu Ile Glu Val Glu Thr Xaa Xaa Glu Ile Met Leu
 2561 2180 2185 2190
 2563 Ile Met Gly Asn Phe Leu Leu Phe Pro Arg Arg Pro Trp Lys Pro Asn
 2564 2195 2200 2205
 E--> 2566 Ile Arg Asn Arg Ser Cys Asn Asn His Val Ile Ile Xaa Glu Leu Val
 2567 2210 2215 2220
 E--> 2569 Val Val Ile Leu Arg Pro Gln Ile Thr Val Phe Xaa Gln Gly Thr Asn
 2570 2225 2230 2235 2240
 2572 Ile Asn Glu Ser Asn Val Val Ser Ile Leu Phe Tyr Thr Phe Ile Pro
 2573 2245 2250 2255
 E--> 2575 Xaa Ser Arg Cys Ser His Asp Leu Ala His Pro Lys Cys Ile Arg Ser
 2576 2260 2265 2270
 2578 Leu Ile Pro Leu Arg Trp Ser Val Leu Thr Arg Asp Leu Val Glu Gly
 2579 2275 2280 2285
 E--> 2582 Ala Val Ser Phe Xaa Tyr Val Glu Val Lys Asp His Leu Tyr Xaa Xaa
 2583 2290 2295 2300
 E--> 2585 Pro Cys Arg Phe Thr Xaa Gly Xaa Ser Leu Glu Ile Gly Leu Pro Trp
 2586 2305 2310 2315 2320
 E--> 2588 Asn Ser Xaa Gly Val Pro
 2589 2325
 2592 <210> SEQ ID NO: 25
 2593 <211> LENGTH: 2258
 2594 <212> TYPE: PRT
 2595 <213> ORGANISM: Musa acuminata
 2597 <400> SEQUENCE: 25
 2598 Ala Arg Ser Thr Asn Glu Leu Leu Thr Leu Met Ser Gln Ile Val Ile
 2599 1 5 10 15
 E--> 2601 Asp Glu Lys Pro Tyr Pro Thr Arg Asn Leu Xaa Thr Trp Ser Gln Asp
 2602 20 25 30
 2604 Phe Leu Ser Lys Asp Ser Pro Leu Arg Phe Pro Thr Phe Thr Ser Phe
 2605 35 40 45
 2607 Gly Pro Glu Ala Ser Gln Arg Ala Gly Ile His Phe Ser Ile Ala Pro
 2608 50 55 60
 2610 Met Arg Lys Ala Ser Arg Gly Gly Ser Leu Pro Arg Arg Ala Val Leu
 2611 65 70 75 80
 2613 Pro Val Arg Leu Val Arg His Gly Ser Ile Leu Arg Pro Arg Met Pro
 2614 85 90 95
 2616 Glu Pro Met Arg Arg Arg Arg Arg Trp Gln Arg Gly Leu Asp His
 2617 100 105 110
 2619 Gln Leu Leu Pro Leu Arg Ala Asp Ala Glu Ala Ser Gln Arg Arg Ser
 2620 115 120 125

*Dane
error*

Dane

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2622 Leu Pro Arg Gln Gly Phe Leu His Val Gln Arg Leu His Arg Arg Arg
 2623 130 135 140
E--> 2625 Gln Leu Leu Gln Arg Val Arg Asp Asp Arg Arg Arg Pro Lys Lys Xaa
 2626 145 150 155 160
E--> 2628 Lys Glu Ile Ala Ala Phe Leu Ala Xaa Thr Ser His Xaa Thr Thr Gly
 2629 165 170 175
E--> 2631 Asn Ser His Ile Ser Arg Ser Ser Thr Val Tyr Gly Ile Xaa Asn Met
 2632 180 185 190
E--> 2634 Phe Gly Val Trp Gln Val Gly Xaa Arg Arg Ala Arg Trp Ser Val Arg
 2635 195 200 205
E--> 2637 Leu Gly Leu Leu Leu Arg Pro Xaa Thr Lys Pro Ser Ser Xaa Tyr Cys
 2638 210 215 220
E--> 2642 Val Pro Xaa Pro Xaa Gly Arg Ala Leu Gln Gln Lys Ile Leu Arg Pro
 2643 225 230 235 240
E--> 2645 Lys Pro Xaa Gln Ile Ser Xaa Xaa Ala Xaa Phe Xaa Gln Phe Xaa Ala
 2646 245 250 255
 2648 Ala Ile Glu Phe Thr Thr Met Pro Phe Leu Thr Gln Gln Ser Asp Val
 2649 260 265 270
E--> 2651 Xaa Cys Val Gln Gln Xaa Gln Xaa Arg Ala Gly Arg Glu Ser His Arg
 2652 275 280 285
E--> 2654 Phe Xaa Xaa Xaa Gln Gln Pro Arg Pro Gly Gly His Xaa Arg Asp His
 2655 290 295 300
E--> 2657 Leu Xaa Gln Asp Gly Ser Val Val Leu Asp Asp Ser Ser Val Ala Gln
 2658 305 310 315 320
 2660 Ala Val Val Pro Arg Arg Asp Asn Arg Glu Leu Asp Ala Ile Gln Arg
 2661 325 330 335
 2663 Arg Pro Gly Gly Arg Lys Ala Ser Gly Leu Arg Cys His His Gln His
 2664 340 345 350
 2666 His Gln Trp Arg Val Gly Val Arg Glu Arg Val Arg Cys Gln Gly Gly
 2667 355 360 365
 2669 Gly Asp Arg Leu Leu Gln Glu Val Leu Arg Leu Ala Gly Gly Glu Leu
 2670 370 375 380
 2672 Arg Arg Gln Leu Gly Leu Leu Gln Pro Glu Thr Leu Cys Phe Tyr Ser
 2673 385 390 395 400
 2675 Ser Tyr Ser His Ile Leu Ala Val Ser Tyr Gly Asp Asn Leu Glu Cys
 2676 405 410 415
 2678 Tyr Asn Gln Arg Pro Phe Thr Ser Asp Thr Thr Val Thr Asn Pro Cys
 2679 420 425 430
 2681 Asn Asn Ala Ile Asn Ala Ile Thr Glu Ile Ala Thr Pro Val Asp Cys
 2682 435 440 445
E--> 2684 Arg Ser Cys Gly Gly Ser Leu Gln Lys Leu Xaa Tyr Ile His Gly Pro
 2685 450 455 460
 2687 Gln Leu Ser Leu Thr Val Ile Ile Cys Ile His Gln Met Ser Ser Asn
 2688 465 470 475 480
 2690 Val Leu Glu Val Asn Ala Tyr Ser Ile Gly Lys Met Lys Met Leu Glu
 2691 485 490 495
 2693 Ile Lys Leu Ile Ile Phe Leu Leu Ile Phe Tyr Ile Phe Ser Arg Ser
 2694 500 505 510
 2696 Lys Ser Asn Tyr Lys Asp Phe Ile Tyr Gly Leu Gly Tyr Glu Tyr Leu

Sense
more

RAW SEQUENCE LISTING
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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

2697	515	520	525
2699	Ile Ile Lys Ile Asn Ile Leu Phe Asn Leu Lys Asp Leu Ile Ile Ser		
2702	530	535	540
2704	Ile Phe Tyr Met Asp Trp Asp Ile Asn Ser Ile Tyr Leu Lys Phe Tyr		
2705	545	550	555
2707	Lys Asn Phe Lys Phe Lys Asn Asn Thr Lys Asn Ile Ile Arg Ser Asp		560
2708	565	570	575
2710	Arg Glu Arg Asp Asp Asp His Glu Ile Glu Val Glu Ser Lys Lys Glu		
2711	580	585	590
2713	Ile Thr Leu Ile Met Gly Asn Phe Val Leu Phe Ala Arg Ser Arg Trp		
2714	595	600	605
2716	Pro Trp Thr Pro Asn Ile His Asn Arg His Ala Ile Thr Met Leu Ser		
2717	610	615	620
2719	Tyr Val Ser Leu Ser His Ile Leu Pro Ile Thr Ser Ser Arg Ile Leu		
2720	625	630	635
E--> 2722	Ile Lys Pro Ala His His Ser Phe Ala Pro Leu Tyr His Xaa Ser Val		640
2723	645	650	655
E--> 2725	Arg Met Ala Pro Ile Pro Ser Val Trp Ser Pro Gly Xaa Trp Ser Val		
2726	660	665	670
E--> 2728	Leu Thr Arg Gly Leu Val Glu Gly His Arg Pro Cys Xaa Leu Arg Gln		
2729	675	680	685
2731	Arg Leu Lys Ile Thr Pro Leu Ala Ile Arg Trp Val Pro Ile Arg Ser		
2732	690	695	700
E--> 2734	Lys Ser Gly Gly Phe Xaa Thr Arg Pro Ile Gln Tyr Leu Ser Gln Glu		
2735	705	710	715
2737	Leu Glu Leu Arg Val Gly Ser Thr Pro Asn Ala Val Pro Gly Val Ala		
2738	725	730	735
2740	Phe Ile Pro Ile Pro Ala Cys Asp His Thr Leu Ser Ser Val Ile		
2741	740	745	750
E--> 2743	Ile Val Arg Trp Val His Ala Leu Ser Asn Leu Leu Asp Ser Xaa Ser		
2744	755	760	765
2746	Phe Asp Thr Ala Ser Tyr Leu Leu Cys Gly Pro Ile His Ser Cys Ile		
2747	770	775	780
2749	Val Ser Tyr Gly Leu Glu Gln Ser Val Cys Arg Gly Thr Val Ser Ser		
2750	785	790	795
2752	Gly Trp Leu Ala Ser Gly Ser Trp His Val Gly Ser Ile Gln His Ile		800
2753	805	810	815
2755	Gly Leu Gly Ile Pro Cys Arg Val Tyr Cys Gly Ser His Val Met Trp		
2756	820	825	830
2758	Gly Gly Cys Gln Asn Met Leu Tyr His Ser Leu Pro Thr Lys Glu Leu		
2759	835	840	845
2762	Cys His Arg Arg Ile Val Asp Thr Ala Trp Val Leu Trp Ser Val Leu		
2763	850	855	860
E--> 2765	Val Arg Leu Ser Trp Val Asp Tyr Phe Ile Lys Leu Ala Xaa Cys Trp		
2766	865	870	875
E--> 2768	Leu Gly Lys Val His Leu Val Gly Met Val Glu Thr Xaa Pro Arg Lys		880
2769	885	890	895
2771	Val Gly Asp Leu Val Phe Asp Asn Gln Leu Phe Met Arg Arg Met Val		
2772	900	905	910

Dane

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

2774 Ser Leu Arg Trp Gly Val Cys Ser Phe Arg Phe Val Ala Met Asp Cys
 2775 915 920 925
E--> 2777 Leu Leu Glu Ala Trp Phe Asp Cys Ser Val Gly Arg Arg Tyr Leu Xaa
 2778 930 935 940
 2780 Arg Ser Ser Ile Pro Cys Ser Glu Lys Asp Leu Pro Arg Ser Leu Ala
 2781 945 950 955 960
 2783 Arg Pro Cys Ser Gln Arg Met Cys Met Ser Arg Ser Ile Gln Pro Cys
 2784 965 970 975
 2786 Gly Ser Arg Met His Gln Leu Gly Leu Ala Cys Ser Arg Leu Lys Gln
 2787 980 985 990
 2789 Lys Asp Ile Leu Ala Thr Arg Phe Ala Gln Pro Cys Gly Ser Asn Gln
 2790 995 1000 1005
 2792 Met His Leu Leu Gly Leu Ala Leu Thr Arg Gln Trp Thr Leu Val Ser
 2793 1010 1015 1020
E--> 2795 Glu Lys Gly Leu Xaa Lys Thr Leu Ala Arg Thr Ser Arg Tyr Leu Leu
 2796 1025 1030 1035 1040
 2798 Asp Asn Arg Cys Leu Val Met Asp Leu Arg Leu Ser Arg Gln Arg Leu
 2799 1045 1050 1055
 2801 Ala Glu Thr Trp Ala Met Asp Ala Tyr Lys Glu Arg Met Ala Arg Asp
 2802 1060 1065 1070
 2804 Arg Ser Asn Asn Tyr Lys Phe Ile Lys His Leu Met Asp Ala Tyr Lys
 2805 1075 1080 1085
E--> 2807 Glu Arg Thr Asp Arg Asp Arg Ser Asn Asn Tyr Lys Phe Ile Lys Xaa
 2808 1090 1095 1100
E--> 2810 Leu Leu Xaa His Trp Thr Lys Glu Val Leu Cys Asn Ile Lys Ile Gly
 2811 1105 1110 1115 1120
 2813 Arg His Lys Tyr Tyr Phe Gln Ile Leu Phe Ser Leu Ser Pro Ser Pro
 2814 1125 1130 1135
 2816 Pro Leu Pro Phe Ser Ile Phe Ser Ile Leu Ser His Asn Ile Arg Thr
 2817 1140 1145 1150
E--> 2819 Asp Met Thr Thr Phe Asp Leu Leu Thr Xaa Leu Xaa His Gln Lys Pro
 2822 1155 1160 1165
E--> 2824 Tyr Cys Leu Pro His Asp Gly Asp Glu Leu Leu Val Gln Xaa Ser Asn
 2825 1170 1175 1180
E--> 2827 Xaa Trp Lys Trp Thr Ser Thr Met Thr Arg Met Ala Thr Cys Ser Cys
 2828 1185 1190 1195 1200
 2830 Val Asp Phe Pro Ser Asn Gln Ser Ser Trp Asn Arg Ile Arg Arg Leu
 2831 1205 1210 1215
 2833 Lys Gly Asp Asp His Val Gln Cys His Ala His Gln His Asn Ser Asn
 2834 1220 1225 1230
 2836 Thr Val Gln Lys Asp Leu Ile Leu His Leu Ala His Pro Ala Ala Gly
 2837 1235 1240 1245
 2839 Ile Asp Trp Arg Lys Arg Arg Val Ser Leu Pro Ile His Ile Gln Arg
 2840 1250 1255 1260
 2842 Thr Asn Ser Phe Ser Ser Asp Glu His Phe Ser Pro Ala Leu Tyr Phe
 2843 1265 1270 1275 1280
 2845 Ile Ile Ile Ile Ile Asn Met Val Ser Leu Gln Asn Ile Ile Phe
 2846 1285 1290 1295
 2848 Phe Gln Asn Ile Leu Lys Asn Asp Lys Gly Arg Arg Trp Ile Ser Asp

Jane

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

2849	1300	1305	1310
2851	Phe Tyr Cys Glu Gln Lys Ser Leu Val Arg Thr Ser Lys Met Cys Gln		
2852	1315	1320	1325
2854	Met Asn Pro Asn Lys Trp Val Trp Ser Met Val Thr Met Arg Ser Val		
2855	1330	1335	1340
2857	Phe Val Tyr Lys Lys Ile Ile Asn Leu Ile Phe Ile Phe Pro Leu Ile		
2858	1345	1350	1355
E--> 2860	Ser Gly His Asp Ile Ser Ser Asn His Val Met Xaa Asp Glu Xaa His		
2861	1365	1370	1375
E--> 2863	Ile Phe Xaa Lys Leu Xaa Ile Glu Lys Lys Asp Tyr Tyr Pro Phe Tyr		
2864	1380	1385	1390
E--> 2866	Xaa Cys Xaa Ile Ile Phe Ser Leu Ser Ile Ile His Val Glu Glu Arg		
2867	1395	1400	1405
E--> 2869	Leu Ser His Gln Ile Lys Tyr Arg Xaa Lys Ser Cys Phe Leu Asn Ser		
2870	1410	1415	1420
E--> 2872	Lys Asn Asn Leu Pro Leu Leu Ile Ile Ser Leu Leu Ile Ser Ile Xaa		
2873	1425	1430	1435
E--> 2875	Ile Tyr Ile Tyr Xaa Tyr Ile Asn Phe Xaa Ile Phe Leu Asn Leu Asn		
2876	1445	1450	1455
2878	Leu Ser Lys Lys Asp Lys Leu Asn Phe Cys Ile Ile Met Val Glu Leu		
2879	1460	1465	1470
E--> 2882	Val Lys Xaa Gly Ser Arg Thr Leu Ile Glu Asn Ser Lys Pro Leu Leu		
2883	1475	1480	1485
2885	Val Leu Leu Asp Glu Asn Lys Thr Ile Lys Asn Pro Leu Ile Tyr Ile		
2886	1490	1495	1500
2888	Tyr Ile Tyr Ile Leu Tyr Leu Phe Phe Gly Arg Thr Thr Gln Val		
2889	1505	1510	1515
E--> 2891	Arg Lys Pro Lys Gln Arg Trp Arg Lys Val Gly Arg Xaa Arg Asp Phe		
2892	1525	1530	1535
2894	Ser Lys Arg Arg His Thr Ser Ile Arg Ile Val Met Thr Ile Arg Arg		
2895	1540	1545	1550
2897	Lys Arg Gly Glu Arg Glu Arg Arg Lys Arg His Cys Pro Val Leu Ser		
2898	1555	1560	1565
2900	Met Arg Asn Cys Leu Ser Thr Asn Glu Gln Tyr Lys His Leu Cys Arg		
2901	1570	1575	1580
2903	Gln Ile Cys Ser Lys Gly Ser Phe Thr Ala Gly Arg Asn Pro Phe Leu		
2904	1585	1590	1595
2906	Tyr Ile Ser Thr Thr Ser His Pro His His His His His His Cys		
2907	1605	1610	1615
2909	Gly Gly Arg Pro Cys Cys Trp Ser Phe Leu Pro Trp Pro Arg Arg Ser		
2910	1620	1625	1630
2912	Ala Pro Ser Pro Ser Asn Ala Glu Gly Lys Pro Gly Gly Leu Ser Ala		
2913	1635	1640	1645
2915	Pro Ala Gly Cys Ala Val Ala Ser Thr Ala Gly Ala Val Thr Arg Ile		
2916	1650	1655	1660
E--> 2918	His Xaa Ala Val Lys Asp Ala Xaa Xaa Asn Ala Xaa Ala Pro Arg Pro		
2919	1665	1670	1675
E--> 2921	Pro Leu Pro Leu Arg Ala Ala Val Ala Xaa Leu Ala Arg Ser Ser Ser		
2922	1685	1690	1695

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

E--> 2924 Pro Pro Ser Ser Arg Cys Ser Ile Xaa Xaa Thr Gln Pro Ala Pro
2925 1700 1705 1710
E--> 2927 Ala Xaa Ala Ser Thr Arg Xaa Pro Pro Ser Ser Pro Pro Pro Xaa Pro
2928 1715 1720 1725
E--> 2930 Ser Xaa Gly Ser Gly Xaa Pro Ala Thr Thr Pro Xaa Ile Xaa Xaa Xaa
2931 1730 1735 1740
E--> 2933 Ser Arg Leu Ser Trp Xaa Xaa Xaa Leu Xaa Arg Xaa Xaa Val Ile Xaa
2934 1745 1750 1755 1760
E--> 2936 Xaa Ser Pro Glu Ala Arg Leu Gln Xaa Xaa Asp Arg Xaa Leu Asn Ala
2937 1765 1770 1775
E--> 2939 Leu Gly Xaa Ala Arg Gly Trp Ser Thr Val Pro Xaa Gly Xaa Ser Arg
2942 1780 1785 1790
E--> 2944 Gly Val Thr Ala Ser Ser Xaa Asn Arg Thr Leu Ile Gly Leu Leu Arg
2945 1795 1800 1805
E--> 2947 Arg Gln Leu Ala Xaa Ala Val Arg Cys Xaa Gln Xaa Ile Leu Arg Pro
2948 1810 1815 1820
2950 Lys Pro His Pro Asn Leu Ile Gln Leu Gln Leu Arg Ala Gly Arg Glu
2951 1825 1830 1835 1840
2953 Asn His Arg Leu Arg Pro Ala Gln Gln Pro Arg Pro Gly Gly His Arg
2954 1845 1850 1855
2956 Pro Asp His Leu Leu Gln Asp Gly Ser Val Val Leu Asp Asp Ser Ser
2957 1860 1865 1870
2959 Val Ala Gln Ala Val Val Pro Arg Arg Asp Asn Arg Glu Leu Asp Ala
2960 1875 1880 1885
2962 Ile Gln Arg Arg Pro Gly Gly Arg Lys Ala Ser Gly Leu Arg Cys His
2963 1890 1895 1900
2965 His Gln His Gln Trp Arg Val Gly Val Arg Glu Arg Val Arg Cys
2966 1905 1910 1915 1920
E--> 2968 Gln Gly Gly Asp Arg Leu Leu Gln Xaa Val Leu Arg Leu Ala Gly
2969 1925 1930 1935
E--> 2971 Gly Glu Leu Arg Arg Gln Leu Gly Leu Leu Gln Pro Xaa Ser Leu Tyr
2972 1940 1945 1950
E--> 2974 Leu Xaa Arg Tyr Tyr Val Arg Ile His Val Ile Thr Gln Thr Leu Leu
2975 1955 1960 1965
2977 Leu Lys Arg Leu Arg Glu Leu Ile Val Glu Val Ala Glu Glu Ile Phe
2978 1970 1975 1980
2980 Asn Lys Ser Ala Glu Gln Val His Gly Pro Gln Ser Ser Leu Ile Val
2981 1985 1990 1995 2000
E--> 2983 Val Arg Cys Ile His Gln Met Ser Trp Ser Xaa Xaa Met Arg Xaa Xaa
2984 2005 2010 2015
2986 Ser Val Asn Arg Cys Asn Lys Asn Tyr Leu Phe Phe Ile Ile Ile Asn
2987 2020 2025 2030
2989 Ile Leu Ile Tyr Phe Leu Ile Leu Lys Ile Leu Lys Asn Leu Ile Ile
2990 2035 2040 2045
E--> 2992 Arg Ile Leu Tyr Met Asp Trp Asp Thr Xaa Lys Xaa Xaa Leu Xaa Lys
2993 2050 2055 2060
2995 Leu Ile Tyr Phe Ser Gly Ser Lys Asn Ile Ile Ile Arg Ile Phe Tyr
2996 2065 2070 2075 2080
E--> 2998 Met Asp Xaa Asp Thr Asn Xaa Xaa Leu Lys Phe Xaa Tyr Lys Ile Val

Dane

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

2999	2085	2090	2095	
E--> 3002 Lys Ser Lys Asn Asn Thr Lys Asn Ile Xaa Ser Tyr Arg Glu Cys Gly				
3003	2100	2105	2110	
E--> 3005 Ala Ile Ser Arg Ser Arg Leu Arg Leu Xaa Xaa Lys Leu Cys Ser Trp				
3006	2115	2120	2125	
3008 Glu Ile Phe Phe Cys Phe Gln Asp Asp Asp Arg Gly Asn Leu Thr Ser				
3009	2130	2135	2140	
E--> 3011 Ala Ile Gly His Ala Ile Thr Met Leu Ser Ser Xaa Asn Leu Ser Ser				
3012	2145	2150	2155	2160
E--> 3014 Ser Ser Tyr Gly His Lys Ser Gln Ser Ser Xaa Lys Ala Arg Ile Leu				
3015	2165	2170	2175	
E--> 3017 Met Ser Pro Thr Tyr Leu Tyr Cys Phe Thr Leu Leu Tyr Arg Xaa Arg				
3018	2180	2185	2190	
3020 Gly Val Arg Thr Ile Trp Pro Ile Pro Ser Ala Asp His Tyr Asp Leu				
3021	2195	2200	2205	
E--> 3023 Tyr Val Gly Ala Cys Pro Glu Ile Leu Arg Gly His Arg Ser His Xaa				
3024	2210	2215	2220	
E--> 3026 Ser Thr Trp Arg Leu Lys Ile Thr Phe Ile Xaa Xaa Leu Val Asp Ser				
3027	2225	2230	2235	2240
E--> 3029 Lys Leu Glu Val Asp Leu Xaa Arg Arg Ser Val Ser Leu Gly Thr Leu				
3030	2245	2250	2255	
E--> 3032 Gly Xaa				
3036 <210> SEQ ID NO: 26				
3037 <211> LENGTH: 2359				
3038 <212> TYPE: PRT				
3039 <213> ORGANISM: Musa acuminata				
3041 <400> SEQUENCE: 26				
3042 Gln Arg Gly Arg Leu Met Ser Tyr His Cys His Arg Met Arg Ser Arg				
3043	1	5	10	15
E--> 3045 Ile Gln His Ala Ile Cys Xaa Leu Gly His Arg Thr Ser Tyr Pro Lys				
3046	20	25	30	
3048 Thr Arg Leu Cys Asp Phe Pro His Ser Pro His Leu Val His Arg Lys				
3049	35	40	45	
3051 Leu His Ser Gly Gln Glu Ser Ile Ser Leu Tyr Lys His His Leu Pro				
3052	50	55	60	
3054 Pro Thr Pro Pro Pro Leu Pro Leu Leu Arg Arg Met Lys Ala Leu Leu				
3055	65	70	75	80
3057 Leu Val Ile Phe Thr Leu Ala Ser Ser Leu Gly Ala Phe Ala Glu Gln				
3058	85	90	95	
3062 Cys Gly Arg Gln Ala Gly Gly Ala Leu Cys Pro Gly Gly Leu Cys Cys				
3063	100	105	110	
3065 Ser Gln Tyr Gly Trp Cys Gly Asn Thr Asp Pro Tyr Cys Gly Gln Gly				
3066	115	120	125	
3068 Cys Gln Ser Gln Cys Gly Gly Ser Gly Gly Ser Gly Gly Ser Val				
3069	130	135	140	
3071 Ala Ser Ile Ile Ser Ser Leu Phe Glu Gln Met Leu Lys His Arg				
3072	145	150	155	160
3074 Asn Asp Ala Ala Cys Pro Gly Lys Gly Phe Tyr Thr Tyr Asn Ala Phe				
3075	165	170	175	

*Mase**Jane*

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Input Set : A:\pto.amc.txt
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3077 Ile Ala Ala Ala Asn Ser Phe Ser Gly Phe Gly Thr Thr Gly Asp Asp
 3078 180 185 190
E--> 3080 Pro Arg Arg Xaa Arg Arg Ser Arg Leu Ser Trp Arg Xaa Arg Leu Thr
 3081 195 200 205
E--> 3083 Xaa Arg Gln Val Ile Xaa Thr Ser Pro Glu Ala Arg Lys Leu Phe Met
 3084 210 215 220
E--> 3086 Gly Xaa Lys Thr Glu Cys Leu Gly Phe Gly Arg Trp Val Gly Asp Ala
 3087 225 230 235 240
E--> 3089 Pro Asp Gly Pro Tyr Ala Leu Gly Tyr Cys Phe Val Gln Xaa Gln Asn
 3090 245 250 255
E--> 3092 Pro His Arg Xaa Thr Ala Ser Xaa Leu Pro Xaa Ala Val Arg Cys Ser
 3093 260 265 270
E--> 3095 Lys Lys Tyr Gly Arg Ser Pro Ser Lys Phe His Xaa Xaa Pro Xaa Ser
 3096 275 280 285
E--> 3098 Xaa Ser Ser Ser Pro Arg Ser Ser Ser Gln Arg Cys Xaa Phe Arg Asn
 3099 290 295 300
E--> 3101 Asn Pro Met Cys Xaa Ala Cys Ser Xaa Tyr Xaa Tyr Gly Pro Ala Gly
 3102 305 310 315 320
E--> 3104 Arg Ala Ile Gly Ser Asp Xaa Xaa Asn Asn Pro Asp Leu Val Ala Thr
 3105 325 330 335
E--> 3107 Asp Ala Thr Ile Ser Phe Lys Thr Xaa Leu Trp Phe Trp Met Thr Xaa
 3108 340 345 350
E--> 3110 Gln Ser Pro Lys Pro Xaa Cys His Asp Val Ile Thr Gly Ser Trp Thr
 3111 355 360 365
 3113 Pro Ser Asn Ala Asp Gln Ala Ala Gly Arg Leu Pro Gly Tyr Gly Val
 3114 370 375 380
 3116 Thr Thr Asn Ile Ile Asn Gly Gly Leu Glu Cys Gly Lys Gly Tyr Asp
 3117 385 390 395 400
 3119 Ala Arg Val Ala Asp Arg Ile Gly Phe Tyr Lys Arg Tyr Cys Asp Leu
 3122 405 410 415
 3124 Leu Gly Val Ser Tyr Gly Asp Asn Leu Asp Cys Tyr Asn Gln Arg Pro
 3125 420 425 430
 3127 Phe Ala Ser Thr Ala Ala Thr Ala Thr Phe Arg Ala Met Glu Thr Thr
 3128 435 440 445
 3130 Trp Ser Ala Thr Thr Arg Asp Pro Leu Leu Ser Pro Ile Leu Leu Arg
 3131 450 455 460
 3133 Ile His Val Ile Thr Gln Thr Leu Leu Leu Arg Arg Leu Arg Glu Leu
 3134 465 470 475 480
E--> 3136 Thr Val Glu Val Ala Glu Glu Val Phe Asn Lys Ser Leu Xaa Thr Tyr
 3137 485 490 495
 3139 Met Ala His Asn Tyr Arg Pro Ser Tyr Ala Ser Ile Lys Cys Pro Gln
 3140 500 505 510
 3142 Met Ser Trp Ser Lys Met Arg Ile Arg Ser Val Lys Arg Cys Asn Lys
 3143 515 520 525
 3145 Asn Leu Phe Phe Tyr Asn Tyr Lys Tyr Phe Asn Ile Phe Phe Asn Leu
 3146 530 535 540
 3148 Lys Asp Pro Lys Asn Leu Ile Ile Arg Ile Leu Tyr Met Asp Trp Asp
 3149 545 550 555 560
 3151 Thr Lys Asn Ile Leu Lys Leu Ile Tyr Phe Leu Ile Leu Lys Ile Leu

Dane

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

3152	565	570	575
3154	Val Phe Ser Ile Trp Ile Gly Ile Leu Thr Arg Phe Thr Tyr Lys Asn		
3155	580	585	590
3157	Phe Asn Ile Lys Ile Leu Asn Leu Lys Ile Lys Ile Leu Lys Ile Ser		
3158	595	600	605
3160	Lys Tyr Asn Gly Asn His Glu Ile Glu Asn Val Met Ile Glu Ile Met		
3161	610	615	620
3163	Arg Ser Arg Leu Arg Val Lys Arg Lys Leu Arg Ser Trp Glu Ile Ser		
3164	625	630	635
3166	640		
3166	Phe Cys Leu His Gly Arg Asp Gly Asp Arg Gly His Leu Thr Ser Thr		
3167	645	650	655
3169	Thr Gly Met Gln Pro Cys Cys His Met Leu Ala Cys Leu Ile Ser Tyr		
3170	660	665	670
3172	Asp His Glu Ser His Ser Leu His Glu Tyr Leu Ser Gln Leu Ser Ile		
3173	675	680	685
E--> 3175	Thr Val Leu His Leu Cys Thr Ile Xaa Glu Val Phe Val Trp Leu Asp		
3176	690	695	700
E--> 3178	Pro Ser Arg Val Tyr Gly Leu Pro Xaa Pro Gly Ala Cys Pro Glu Val		
3179	705	710	715
E--> 3182	720		
3182	Leu Arg Gly Ile Asp Leu Val Xaa Leu Gly Arg Gly Arg Ser Leu Leu		
3183	725	730	735
3185	Leu Ser Val Gly Cys Leu Tyr Lys Gly Arg Asn His Glu Gly Asp Ser		
3186	740	745	750
3188	Leu Asp Leu Phe Asn Ile Ala Ser Lys Ser Trp Ser Tyr Val Tyr Glu		
3189	755	760	765
3191	Val Arg Pro Pro Met Leu Phe Leu Gly Ser Leu Leu Tyr Leu Phe Leu		
3192	770	775	780
3194	His Val Ile Ile His Ser Ser Phe Asn His Leu Gln Ser Ser Ser Tyr		
3195	785	790	795
E--> 3197	800		
3197	Val Gly Cys Met His Cys Leu Ile Tyr Ser Ile Gln Xaa Arg Ser Thr		
3198	805	810	815
3200	Leu Leu Pro Thr Tyr Tyr Val Ala Gln Tyr Ile Val Val Leu Ser His		
3201	820	825	830
3203	Thr Ala Ser Ser Lys Ala Cys Ala Glu Glu Leu Cys Gln Val Val Gly		
3204	835	840	845
3206	Trp Pro Arg Ala His Gly Ile Glu Leu Ala Arg Tyr Asn Thr Ser Ala		
3207	850	855	860
3209	Gly Tyr His Ala Glu Ser Ile Val Val Val Asp Met Ser Cys Gly Val		
3210	865	870	875
3212	880		
3212	Asp Ala Lys Ile Cys Tyr Ile Ile Leu Ser Leu Gln Arg Ser Cys Ala		
3213	885	890	895
3215	Ile Gly Glu Ser Trp Thr Arg Leu Gly Phe Cys Gly Arg Ser Leu Phe		
3216	900	905	910
3218	Ala Ser Val Gly Trp Ile Thr Ser Ser Ser Trp Pro Ser Val Gly Trp		
3219	915	920	925
E--> 3221	930		
3221	Ala Lys Tyr Thr Trp Gly Trp Ser Arg Gln Xaa Gln Gly Arg Leu Ala		
3222	935	940	
3224	Lys Thr Trp Phe Ser Thr Ile Asn Cys Leu Gly Glu Trp Tyr Pro Ser		
3225	945	950	955
			960

Dane

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Input Set : A:\pto.amc.txt
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3227 Val Gly Val Ser Ala Arg Phe Gly Leu Leu Arg Trp Ile Val Cys Cys
3228 965 970 975
E--> 3230 Arg Arg Leu Gly Ser Ile Ala Leu Lys Ser Gly Glu Gly Ile Xaa Gly
3231 980 985 990
3233 Val Gln Phe Asp His Val Glu Val Asn Lys Arg Thr Cys Gln Glu Val
3234 995 1000 1005
3236 Trp Leu Asp Arg Val Lys Ala Arg Glu Cys Val Cys Arg Gly Leu Phe
3237 1010 1015 1020
3239 Asn His Val Glu Ala Arg Glu Cys Thr Asn Cys Glu Val Trp Leu Ala
3242 1025 1030 1035 1040
3244 His Val Ser Arg Arg Ile Tyr Leu Leu Arg Gly Leu Leu Asn His Val
3245 1045 1050 1055
3247 Glu Ala Ile Lys Cys Thr Cys Tyr Glu Val Trp Leu Asp Leu Leu Asp
3248 1060 1065 1070
E--> 3250 Asn Gly Arg Xaa Val Arg Arg Asp Xaa Pro Arg Leu Ser Trp Gln Gly
3251 1075 1080 1085
3253 Leu Val Asp Thr Cys Ser Thr Ile Asp Ala Tyr Arg Trp Ile Asp Asp
3254 1090 1095 1100
3256 Leu Val Asp Lys Asp Leu Arg Leu Ser Gly Gln Trp Met Pro Ile Ser
3257 1105 1110 1115 1120
3259 Lys Lys Gly Trp Leu Glu Ile Asn Lys Asp Gln Ile Ile Asn Ile Asn
3260 1125 1130 1135
3262 Leu Ser Asn Thr Trp Thr His Ile Ser Glu Lys Gly Arg Ile Glu Ile
3263 1140 1145 1150
E--> 3265 Asn Lys Asp Gln Ile Ile Asn Ile Ser Leu Asn Ser Xaa Tyr Xaa Ile
3266 1155 1160 1165
3268 Gly Gln Lys Arg Tyr Tyr Val Ile Leu Lys Leu Gly Gly Thr Asn Ile
3269 1170 1175 1180
3271 Ile Ser Lys Tyr Phe Ser Pro Ala Leu Arg His His Cys His Phe Asn
3272 1185 1190 1195 1200
E--> 3274 Leu Phe Phe Leu Tyr Asn Tyr Xaa Ile Thr Phe Val His Glu Ile His
3275 1205 1210 1215
E--> 3277 Lys Pro Ser Thr Cys Phe Ser Lys His Xaa Asp Tyr Xaa Asp Thr Arg
3278 1220 1225 1230
3280 Ser His Asn Ile Ala Tyr Leu Asn Met Met Glu Met Asn Phe Ser Trp
3281 1235 1240 1245
E--> 3283 Ser Xaa Tyr Leu Xaa Asn Gly Ser Gly Gln Ala Arg Leu Gly Trp Leu
3284 1250 1255 1260
3286 His Val His Val Leu Thr Phe Gln Val Ile Asn Gln Ala Gly Ile Glu
3287 1265 1270 1275 1280
3289 Asp Asp Ser Arg Ala Met Thr Ile Lys Phe Asn Val Thr Leu Ile Asn
3290 1285 1290 1295
3292 Ile Ile Pro Thr Pro Cys Arg Lys Ile Leu Ser Tyr Ile Asp Leu Pro
3293 1300 1305 1310
3295 Ile Arg Pro Pro Ala Ser Ile Gly Gly Asn Glu Gly Ser Val Ser Gln
3296 1315 1320 1325
3298 Phe Thr Phe Lys Gly Arg Ile His Phe His Gln Met Ser Thr Ser Val
3299 1330 1335 1340
3302 Leu Leu Asp Tyr Ile Leu Leu Leu Leu Leu Ile Glu Trp Val

Jane

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/892,635

DATE: 03/20/2003
TIME: 11:22:24

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

3303	1345	1350	1355	1360
3305	Tyr Arg Ile Tyr Arg Tyr Phe Ser Phe Asn Lys Ile Phe Lys Met Ile			
3306	1365	1370	1375	
3308	Lys Gly Glu Gly Gly Phe Asp Leu Arg Ile Phe Ile Val Ser Asn Lys			
3309	1380	1385	1390	
3311	Ser Leu Leu Glu Leu Pro Lys Cys Val Lys Thr Leu Ile Ser Gly Phe			
3312	1395	1400	1405	
3314	Gly Leu Trp Leu Arg Asp Gln Tyr Leu Tyr Ile Lys Lys Leu Ser Thr			
3315	1410	1415	1420	
3317	Phe Leu Phe Phe Asn Pro Val Asp Met Ile Tyr His Asn Gln Ile Met			
3318	1425	1430	1435	1440
E--> 3320	Cys Xaa Met Ser Xaa Asn Ile Phe Phe Asn Asn Xaa Asn Tyr Xaa Arg			
3321	1445	1450	1455	
E--> 3323	Lys Asn Lys Ile Thr Ile Pro Ser Xaa Asp Val Leu Tyr Phe Asn Pro			
3324	1460	1465	1470	
E--> 3326	Phe Xaa Tyr Arg Phe Thr Asn Lys Lys Asp Tyr Asn Arg Ile Lys Ser			
3327	1475	1480	1485	
E--> 3329	Asn Thr Glu Xaa Asn His Ala Phe Asp Leu Ile Arg Lys Ile Ile Phe			
3330	1490	1495	1500	
E--> 3332	Leu Ser Tyr Pro Tyr Ala Xaa Leu Tyr Ile Tyr Ile Xaa Ile Ser Thr			
3333	1505	1510	1515	1520
E--> 3335	Ser Lys Xaa Tyr Phe Ile Asn Ile Tyr Gln Asn Lys Lys Ile Asn Ile			
3336	1525	1530	1535	
E--> 3338	Ser Ser Ala Ser Cys Ser Lys Cys Lys Asn Leu Asn Xaa Asp Leu Glu			
3339	1540	1545	1550	
3341	His Lys Ile Pro Asn His Tyr Phe Tyr Leu Met Lys Thr Lys Pro Tyr			
3342	1555	1560	1565	
3344	Lys Arg Ile Leu Leu Tyr Ile Tyr Ile Tyr Tyr Phe Thr Tyr			
3345	1570	1575	1580	
3347	Ser Leu Asp Val Gln His Lys Ser Gly Asn Arg Asn Lys Gly Gly			
3348	1585	1590	1595	1600
E--> 3350	Lys Leu Ala Xaa Ala Glu Glu Thr Phe Arg Arg Ser Glu Gly Asp Thr			
3351	1605	1610	1615	
3353	Arg Leu Glu Leu Ser Leu Tyr Ala Glu Glu Lys Glu Gly Arg Glu Arg			
3354	1620	1625	1630	
3356	Glu Gly Ser Ala Thr Val Asp Arg Ser Cys Pro Gly Ile Val Cys Arg			
3357	1635	1640	1645	
3359	Leu Met Ser Ser Thr Asn Ile Cys Val Asp Arg Trp Gln Gln Met Arg			
3362	1650	1655	1660	
E--> 3364	Ser Gly Ile Pro Thr Arg Asn Leu Pro Leu Val Xaa Arg Leu Ile Gln			
3365	1665	1670	1675	1680
3367	Arg Leu Ala Ser Ala Ile Ser Ser Cys Ala Ser Ser Val Pro Lys Glu			
3368	1685	1690	1695	
3370	Ala Ser Gln Arg Ala Gly Ile His Phe Ser Ile Ala Pro Pro Pro Thr			
3371	1700	1705	1710	
3373	His Thr Thr Thr Thr Thr Ala Lys Glu Asp Glu Gly Leu Val			
3374	1715	1720	1725	
3376	Ala Gly His Phe Tyr Pro Gly Leu Val Ala Arg Arg Leu Arg Arg Ala			
3377	1730	1735	1740	

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3379 Met Arg Lys Ala Ser Arg Gly Gly Ser Leu Pro Arg Arg Ala Val Leu
 3380 1745 1750 1755 1760
E--> 3382 Pro Val Arg Leu Val Arg His Gly Ser Xaa Leu Arg Ser Arg Met Pro
 3383 1765 1770 1775
E--> 3385 Xaa Pro Met Xaa Xaa Leu His Ala Leu Pro Phe His Ser Glu Arg Arg
 3386 1780 1785 1790
E--> 3388 Trp Xaa Xaa Trp Leu Asp His His Leu Leu Pro Leu Xaa Ala Asp Ala
 3389 1795 1800 1805
E--> 3391 Glu Ala Ser Xaa Arg Xaa Ser Xaa Pro Arg Gln Xaa Leu Leu Xaa Val
 3392 1810 1815 1820
E--> 3394 His Arg Leu His Leu Arg Arg Xaa Leu Leu Xaa Arg Val Arg Asp Xaa
 3395 1825 1830 1835 1840
E--> 3397 Xaa Arg Pro Leu His Xaa Xaa Gly Xaa Xaa Gly Phe Leu Gly Xaa Asp
 3398 1845 1850 1855
E--> 3400 Xaa Ser Arg Asp Xaa Xaa Ser Xaa Xaa Leu Pro Arg Leu Val Xaa Xaa
 3401 1860 1865 1870
E--> 3403 Leu Xaa Ile Asp Xaa Xaa Met His Trp Val Xaa His Val Gly Gly Pro
 3404 1875 1880 1885
E--> 3406 Pro Cys Pro Met Ala Xaa Arg Val Gly Leu Leu Leu Arg Pro Xaa Thr
 3407 1890 1895 1900
E--> 3409 Glu Pro Ser Ser Asp Tyr Cys Val Ala Ser Ser Xaa Trp Pro Cys Ala
 3410 1905 1910 1915 1920
E--> 3412 Ala Xaa Xaa Lys Tyr Tyr Gly Arg Ser Pro Ile Gln Ile Ser Phe Asn
 3413 1925 1930 1935
 3415 Tyr Asn Tyr Gly Pro Ala Gly Lys Thr Ile Gly Ser Asp Leu Leu Asn
 3416 1940 1945 1950
 3418 Asn Pro Asp Leu Val Ala Thr Asp Pro Thr Ile Ser Phe Lys Thr Ala
 3419 1955 1960 1965
 3422 Leu Trp Phe Trp Met Thr Pro Gln Ser Pro Lys Pro Ser Cys His Asp
 3423 1970 1975 1980
 3425 Val Ile Thr Gly Ser Trp Thr Pro Ser Asn Ala Asp Arg Ala Ala Gly
 3426 1985 1990 1995 2000
 3428 Arg Leu Pro Gly Tyr Gly Val Thr Thr Asn Ile Ile Asn Gly Gly Leu
 3429 2005 2010 2015
 3431 Glu Cys Gly Lys Gly Ser Asp Ala Arg Val Ala Asp Arg Ile Gly Phe
 3432 2020 2025 2030
E--> 3434 Tyr Xaa Arg Tyr Cys Asp Leu Leu Gly Val Ser Tyr Gly Asp Asn Leu
 3435 2035 2040 2045
E--> 3437 Asp Cys Tyr Asn Xaa Ser Pro Phe Thr Xaa Ser Asp Thr Met Cys Glu
 3438 2050 2055 2060
 3440 Ser Met Arg Asn Lys Arg Tyr Cys Asn Ser Asp Ser Val Ser Leu Lys
 3441 2065 2070 2075 2080
 3443 Leu Arg Arg Lys Ser Ser Ile Lys Ala Lys Leu Asn Lys Phe Met Ala
 3444 2085 2090 2095
 3446 Leu Asn His Arg Ser Ser Asp Ala Ser Ile Lys Cys Leu Gly Val
 3447 2100 2105 2110
E--> 3449 Ser Xaa Cys Val Phe Xaa Arg Ile Glu Asp Val Arg Ile Asn Lys Ile
 3450 2115 2120 2125
E--> 3452 Ile Tyr Phe Leu Leu Ile Phe Tyr Ile Phe Ser Arg Ser Lys Ile Xaa

done

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3453	2130	2135	2140
E--> 3455	Leu Gly Phe Tyr Ile Trp Ile Gly Ile Leu Xaa Lys Xaa Xaa Tyr Xaa		
3456	2145	2150	2155
3458	Asn Tyr Thr Phe Asn Leu Lys Asp Pro Lys Lys Thr Leu Gly Phe Ser		2160
3459	2165	2170	2175
E--> 3461	Ile Trp Xaa Gly Ile Leu Thr Xaa Xaa Asn Cys Lys Asn Xaa Asn Ile		
3462	2180	2185	2190
E--> 3464	Lys Leu Leu Asn Leu Lys Ile Lys Ile Leu Lys Ile Tyr Xaa Asn His		
3465	2195	2200	2205
E--> 3467	Asp Ile Glu Asn Val Ala Leu Arg Ser Arg Asp Arg Gly Asp Xaa Xaa		
3468	2210	2215	2220
3470	Gly Asn Tyr Val Asn His Gly Lys Phe Ser Phe Val Ser Lys Thr Met		
3471	2225	2230	2235
E--> 3473	Thr Val Glu Thr His Pro Gln Ser Val Met Gln Pro Cys Tyr His Xaa		2240
3474	2245	2250	2255
E--> 3476	Thr Cys Arg Arg His Leu Thr Ala Thr Asn His Ser Leu Leu Xaa Arg		
3477	2260	2265	2270
3479	His Glu Tyr Val Gln Arg Ser Ile Tyr Ile Val Leu His Phe Tyr Thr		
3482	2275	2280	2285
E--> 3484	Val Xaa Glu Val Phe Ala Arg Phe Gly Pro Ser Gln Val His Lys Ile		
3485	2290	2295	2300
3487	Ile Asp Met Thr Ser Thr Leu Glu Arg Val Asn Pro Arg Ser Ser Gly		
3488	2305	2310	2315
E--> 3490	Gly Ile Gly Leu Ile Xaa Leu Arg Gly Gly Arg Ser Pro Leu Xaa Xaa		2320
3491	2325	2330	2335
E--> 3493	Pro Leu Ile Leu Asn Xaa Arg Xaa Ile Ser Xaa Gly Asp Arg Ser Pro		
3494	2340	2345	2350
E--> 3496	Leu Glu Leu Xaa Arg Gly Xaa		
3497	2355		
3869	<210> SEQ ID NO: 29		
3870	<211> LENGTH: 1568		
3871	<212> TYPE: PRT		
3872	<213> ORGANISM: Musa acuminata		
3874	<400> SEQUENCE: 29		
3875	Gly Ser Gln Leu Leu Gly Met Asp Leu Lys Ile Leu Val Ile Ser Ser		
3876	1	5	10
3878	Lys Leu Glu Lys Ser Leu Pro Arg Ala Leu Ser Pro Leu Met Thr Ser		
3879	20	25	30
3881	Val Lys Arg Cys Thr Cys Leu Arg Trp Thr His Leu Val Ser Phe Gly		
3882	35	40	45
3884	Lys Val Arg Lys Ser Ala Glu Tyr Phe Trp Ile Leu Ser Leu Gly Trp		
3885	50	55	60
3887	Cys Leu His Glu Pro Gln Glu Ser Ser Lys Tyr Gln Lys Pro Asn His		
3888	65	70	75
3890	Lys Leu Lys Cys Asp Ile His Phe Cys Leu Met His Lys Thr Gly His		80
3891	85	90	95
3893	Ser Pro Leu Cys Leu Lys Gln Lys His Ser Ser Pro Ile His Pro Ile		
3894	100	105	110
3896	Arg Ser Ser Glu Glu Lys Ile Phe Glu Ile His Phe Arg Gln Thr Lys		

Mase

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3897	115	120	125	
3899	Ala Arg Asn Pro Trp Lys Gly Arg Ser Ser Tyr Glu Phe Ser Asn Thr			
3902	130	135	140	
3904	Cys Asn Ser Thr His Thr Val Asp Val Asn Asp Pro His Ala Leu Ser			
3905	145	150	155	160
3907	Leu Leu Gly Ile Lys Pro Asn Met Arg Val Ser Leu Ala Leu Ile Pro			
3908	165	170	175	
3910	Ile Val Arg Ile Arg Val Ala Leu Arg Glu Gly Ser Glu Leu Val			
3911	180	185	190	
3913	Gln Trp Ile Lys Thr Tyr Lys Phe Lys Asn Glu Phe Val Asn Thr Arg			
3914	195	200	205	
3916	Arg Phe Arg Phe Asn Ser Asn Leu Ser Arg Lys Pro Lys Val Asn Ser			
3917	210	215	220	
3919	Ser Val Asn Asn Asn Phe Gly Lys Val Arg Thr His Thr Phe Lys Glu			
3920	225	230	235	240
3922	His Thr Asn Leu Lys Trp Phe Gly Gln Asn Asp Leu His Pro Leu Val			
3923	245	250	255	
3925	Lys Pro Ser Ser Lys Arg Leu Pro Thr Ser Thr Ser Lys Ser Leu Arg			
3926	260	265	270	
3928	Gly Arg Thr Asn Thr Ser Leu Thr Phe Tyr Asn Gly Ser Tyr Ser			
3929	275	280	285	
3931	Tyr Lys Phe Ser Thr Arg Lys Lys Glu Val Asn Met Gln Ala Ile Glu			
3932	290	295	300	
3934	Asn Lys Thr Cys Arg Leu Cys Gly Phe Phe Ser Gln Ser Ile Ala Ser			
3935	305	310	315	320
3937	Gln Lys Leu Tyr Ser Leu Leu Arg Ile Glu Gly Tyr Leu Thr Pro Arg			
3938	325	330	335	
3940	Gly Phe Lys Phe Gly Leu Gln Ile Ser Asn Ala Leu Gly Phe Pro Arg			
3941	340	345	350	
3943	Leu Pro Val Pro Pro Val Ser Val His Trp Thr Val Tyr Arg Cys			
3944	355	360	365	
3946	His Arg Arg Thr Ser Arg Val Leu Gly Gly Ala Thr Ala Thr Phe Ser			
3947	370	375	380	
3949	Ala His Trp Leu Asp Ser Lys Leu Asp Pro Asn Gln Ser Glu Leu Gly			
3950	385	390	395	400
3952	Ser Asn Pro Val Thr Gly Leu Asp Pro Leu Ile Leu Thr Leu Ile Ile			
3953	405	410	415	
3955	Cys Lys Leu Arg Asn Lys Tyr Ser Pro Lys Gln Val Phe Asn Arg Gln			
3956	420	425	430	
3958	Thr Ser Ser Leu Leu Pro Ala Ile Phe Arg Gln Thr Ser Asp Ile Pro			
3959	435	440	445	
3962	Leu Asp Phe Phe Arg Thr Pro Ser Arg Val Pro Ile Leu Trp Arg Val			
3963	450	455	460	
3965	Arg Val Ala Glu Pro Ser Arg Ser Pro Gln Thr Ala Asp Asp Leu Phe			
3966	465	470	475	480
3968	Gly Arg Leu Ser Lys Thr Ser Thr Ser Pro Arg Phe Leu Leu Gly Trp			
3969	485	490	495	
3971	Phe Arg Gln His Leu Arg Asn Phe Gly Leu Leu Glu Cys Pro Ser Asn			
3972	500	505	510	

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3974 Leu Thr Pro Val Gly Leu Leu Tyr Ile Phe Arg Leu Ser Leu Ile Leu
 3975 515 520 525
 3977 His Thr Leu Asn Asn Met Asp Ile Asn Pro Ile Asn Phe His His Gln
 3978 530 535 540
 3980 Asn Ser Thr Phe Asn Lys His Pro Tyr Ser Ile Thr His Gln Ala Ile
 3981 545 550 555 560
 3983 Val Thr Leu Ser Thr Val Ile Thr Arg Ser Arg Val Met Ile Gln Val
 3984 565 570 575
 3986 Val Ser Leu Ile Gly Arg Thr Arg Ile Pro Tyr Pro Asn Pro Val Phe
 3987 580 585 590
 3989 Ser Thr Leu Leu Ala Tyr Pro Ser Leu Phe Leu Leu Leu Lys Glu
 3990 595 600 605
 3992 Phe Lys Ser Lys Gln Ile Gln Asn Asn Thr Val Arg His Cys Asp Met
 3993 610 615 620
 3995 Leu Val Ser Gly Lys His Phe Ala His Pro Gln Thr Ser Ser Ala Ser
 3996 625 630 635 640
 3998 Ser Pro Thr Phe Ser Tyr Ile Thr Met Ser His Gly Phe Val Asp Asp
 3999 645 650 655
 4001 Arg Pro Pro Gln Ala Cys Leu Trp Leu Cys Leu Thr Glu Arg Glu Arg
 4002 660 665 670
 4004 Gln Thr Asp Ser Leu Leu Ile His Tyr Gly Asp Pro Ile Ala Ser Phe
 4005 675 680 685
 4007 Ala Ala Val Ile Cys Val Pro Asp Ala Cys Ala His Gly Lys Thr Ala
 4008 690 695 700
 4010 Gly Pro Ala Gln Leu Met His Trp Arg Leu Leu Gly Thr Lys His Arg
 4011 705 710 715 720
 4013 Arg Gly Lys Leu Ser Arg Cys Leu Cys His Arg Gln Leu Arg Ile Arg
 4014 725 730 735
 4016 Glu His Arg His Pro Phe Gln Val Trp His Gly Pro Asn Ser Arg Asp
 4017 740 745 750
 4019 Gln Pro Arg Arg Pro Leu Pro Ser Glu Gln Arg Leu Arg Ala Leu Glu
 4022 755 760 765
 4024 Gln Arg Asn Pro Val Leu Pro Gly Ala Trp Arg Gln Gly Asp Ala Leu
 4025 770 775 780
 4027 His Arg Arg Trp Arg Val Leu Trp Pro Glu Phe His Arg Arg Arg Gln
 4028 785 790 795 800
 4030 Gly Arg Ser Val Ile Pro Leu Ala Gln Phe Leu Gly Trp Phe Cys Cys
 4031 805 810 815
 4033 Ser Leu Leu Glu Thr Pro Arg Gly Cys Gly Ser Gly Trp His Arg Leu
 4034 820 825 830
 4036 Gln His Arg Arg Arg Glu His Arg Thr Leu Thr Cys Arg Phe Pro Gln
 4037 835 840 845
 4039 Gly Leu Gln Arg Ala Gly Arg Asn Glu Glu Ser Ser Leu Glu Cys
 4040 850 855 860
 4042 Ser Ser Ala Val Ser Phe Pro Gly Leu Leu Ala Trp Gln Arg Thr Gln
 4043 865 870 875 880
 4045 Asn Arg Ser Leu Arg Leu Arg Val Gly Ala Val Leu Gln Gln Pro Phe
 4046 885 890 895
 4048 Val Pro Phe Leu Pro Glu Arg Tyr Gln Ser Cys Lys Cys Val Gln Gln

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4049	900	905	910
4051	Leu Gly His Val His Pro Cys Ala Lys Ala Val Pro Trp Ala Ser Cys		
4052	915	920	925
4054	Cys Ser Gly Cys Ser Asn Trp Trp Leu His Ser Thr Pro Ser His Ile		
4055	930	935	940
4057	Ser Ser Ser Asp Pro Lys Gly Phe Arg Gln Val Arg Arg Asn His Ala		
4058	945	950	955
4060	Val Asp Ile Pro Arg Gln Lys Leu Arg Leu Gln Phe Ser Ser Gln Val		
4061	965	970	975
4063	Pro Arg Val Ser Ser Ala Ser Val Leu Gln His Leu Ile Tyr Ala Gly		
4064	980	985	990
4066	Glu Val Phe Gln Val Asn Leu Asn Gly Val Asp Asp Arg Trp Ser Lys		
4067	995	1000	1005
4069	Thr Pro Ile Ile Met Gly Pro His Pro Tyr Pro Cys Val Ala Thr Leu		
4070	1010	1015	1020
4072	Trp Cys Phe Pro Cys Met Leu Val Phe Ser Ile Ile Gly Val Ser Phe		
4073	1025	1030	1035
4075	1040		
4076	Thr Phe Pro Tyr Phe Pro Cys Ser Lys Thr Val Tyr Leu Leu Pro Leu		
4078	1045	1050	1055
4079	Pro Asn Leu Lys Lys Ile Lys Ile Tyr Asn Lys Tyr Pro Leu Phe Phe		
4082	1060	1065	1070
4083	Phe Phe Arg Gln Ile Tyr Asn Ser Leu Ser Gln Leu Phe Lys Gln Lys		
4085	1075	1080	1085
4086	Ile Ile Leu Phe His Thr Lys Asp Glu Ser Met Ile Ala Gly Leu Leu		
4088	1090	1095	1100
4089	Ser Thr Gly Ala Glu Met Ala Thr Arg Glu Ala Cys Ala Thr Cys Asn		
4091	1105	1110	1115
4092	1120		
4094	Tyr Lys Phe Val Asn Ile Val Phe Leu Ala Met Phe Gly Asp Ala Ile		
4095	1125	1130	1135
4097	Leu Pro Ser Gly His Thr Ser Gly Thr Val Ser Trp Glu Val Asn Leu		
4098	1140	1145	1150
E--> 4100	Leu Leu Gly Ser Ser Ala Thr Asn Leu Val Arg Phe Phe Ser Met Val		
4101	1155	1160	1165
4103	Ser Thr Ser Thr Ser Lys Val Tyr Leu Ser Ala Xaa Pro Gln Phe Arg		
4104	1170	1175	1180
4106	Leu Arg Val Gly Ala Val Leu Leu His Arg Gln Leu Ala Asp Ala Arg		
4107	1185	1190	1195
4109	1200		
4110	Gln Trp Val Leu His Pro Ala Trp Lys Val Phe Pro Gly Leu Pro Ala		
4112	1205	1210	1215
4115	Ala Pro Gln Ala Ala Gly Arg Ser Ser Ile Pro Leu Val Ile Leu His		
4116	1220	1225	1230
4118	Val Ser Tyr His Gln Glu Leu Gln Val Pro Arg Asp Tyr Asn Lys Lys		
4119	1235	1240	1245
4121	Lys Gly Lys Asn Gly Asn Asn Asn Arg Pro Arg Thr Phe Arg Val		
4122	1250	1255	1260
4123	Lys Thr Asn Asp Ser Met Arg Arg Phe Ala Met Asp Met Asp Arg Ser		
4124	1265	1270	1275
4125	1280		
4126	Gln Ser Ser Pro Ser Leu Tyr Glu Pro Val Tyr Arg Phe Ser Leu Gln		
4127	1285	1290	1295

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4124 Glu Pro Arg Gly Pro Ala Gln Glu Lys Gln Ile Val Val Ser Phe
 4125 1300 1305 1310
E--> 4127 Xaa Tyr Lys Pro Asn Gly Ala Val Arg Gln Met Leu Asn Gly Arg Arg
 4128 1315 1320 1325
 4130 Ile Asp Leu Gln Ser Lys Ser Glu Glu Asn Arg Ser Gly Pro Pro Thr
 4131 1330 1335 1340
 4133 Thr Thr His Ala Ile Arg Pro Leu Pro His Pro Leu His Leu Phe Leu
 4134 1345 1350 1355 1360
 4136 Leu Pro Leu Leu Arg Ser Val Ile Phe Cys Val Tyr Pro Ile Ser Phe
 4137 1365 1370 1375
 4139 Leu Glu Trp Tyr Pro Ile Leu Ile Ser Ile Val Val Leu Asn His Gln
 4142 1380 1385 1390
 4144 Phe Trp Phe Lys Arg Met Met Ala Glu Ser Phe Gly Arg Trp Glu Ser
 4145 1395 1400 1405
 4147 Asp Pro Leu Phe Ser Ala Ala Glu Val Val Gln Asp Ser Ala Asp Arg
 4148 1410 1415 1420
 4150 Phe Phe Leu Ser Phe Ala Gln Leu Cys Gly His Ser Cys Ala Leu Glu
 4151 1425 1430 1435 1440
 4153 Asn Leu Leu Tyr Phe Glu Arg Asn Cys Cys Phe Leu Val Leu Ile Ser
 4154 1445 1450 1455
 4156 Pro Tyr Lys Ile Cys Phe Arg Phe Ile Ser Glu Asn Val Val Ser Ser
 4157 1460 1465 1470
 4159 Met Thr Ile Leu Phe Asn Ser Asn Thr Leu Ser Cys Phe Leu Phe Asn
 4160 1475 1480 1485
 4162 Gly Glu Asn Ile Val Pro Phe Ser Asp Leu Cys Ser Pro Asp His Asp
 4163 1490 1495 1500
 4165 Glu Gly Arg Lys Tyr Phe Leu Val Ile Phe Leu Ser Lys Phe Phe Gln
 4166 1505 1510 1515 1520
 4168 Thr Arg His Lys Tyr Asn Tyr Arg Pro Arg Leu Ile Leu Leu Met His
 4169 1525 1530 1535
 4171 Arg Phe Ser Leu Pro Phe Pro Leu Cys Tyr Gly Tyr Arg Cys Tyr Trp
 4172 1540 1545 1550
 4174 Leu Leu Asn Ser Trp Gly Ser Ala Trp Val Ile Arg Pro Ala Gly Arg
 4175 1555 1560 1565
 4181 <210> SEQ ID NO: 30
 4182 <211> LENGTH: 1574
 4183 <212> TYPE: PRT
 4184 <213> ORGANISM: Musa acuminata
 4186 <400> SEQUENCE: 30
 4187 Asp Pro Asn Phe Glu Trp Ile Leu Lys Phe Leu Val Gln Ser Lys Asn
 4188 1 5 10 15
 4190 Leu Tyr Gln Glu Leu Val His His Pro Asn Gly Val His Val Ser Asp
 4191 20 25 30
 4193 Gly Leu Thr Trp Phe His Ser Glu Lys Phe Glu Arg Val His Lys Asn
 4194 35 40 45
 4196 Ile Asp Phe Gly Phe His Ser Val Gly Ala Phe Met Ser Asp Leu
 4197 50 55 60
 4199 Lys Ser Pro Pro Asn Ile Lys Ser Arg Ile Thr Asn Asn Val Ile Glu
 4202 65 70 75 80

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4204 Phe Ile Phe Val Cys Thr Lys Gln Gly Ile His Ser Leu Cys Val Ser
 4205 85 90 95
 4207 Lys Asn Ile Leu Leu Arg Phe Ile Pro Phe Ala His Arg Lys Arg Lys
 4208 100 105 110
 4210 Phe Leu Lys Ser Ile Phe Asp Asn Arg Pro Lys Leu Glu Ile His Gly
 4211 115 120 125
 4213 Asn Glu Glu Asp Pro His Met Ser Phe Pro Ile His Val Ile Arg Leu
 4214 130 135 140
E--> 4216 Ile Lys His Arg Trp Met Cys Asn Glu Met Thr Leu Met Xaa Tyr Leu
 4217 145 150 155 160
 4219 Ser Trp Val Leu Asn Gln Ile Glu Ala Leu Leu Tyr Gln Leu Leu Gly
 4220 165 170 175
 4222 Ser Glu Trp His Glu Arg Gly Gly Val Asn Cys Ser Gly Leu Lys Leu
 4223 180 185 190
 4225 Ile Ser Leu Lys Met Asn Ser Ile Arg Glu Asp Phe Val Leu Ile Val
 4226 195 200 205
 4228 Thr Val Asp Glu Asn Gln Lys Leu Thr Val Val Ile Thr Ile Ser Gly
 4229 210 215 220
 4231 Lys Glu Leu Thr His Ser Arg Asn Ile Pro Ile Ser Gly Ser Val Lys
 4232 225 230 235 240
 4234 Met Thr Tyr Ile His Leu Ser Leu Leu Arg Arg Gly Ser Gln Leu Pro
 4235 245 250 255
E--> 4237 Leu Ala Asn His Phe Glu Gly Glu Gly Gln Ile Pro Leu Leu Xaa Pro
 4238 260 265 270
 4240 Phe Thr Met Val His Thr Leu Thr Asn Phe Gln Arg Glu Arg Arg Arg
 4241 275 280 285
 4243 Thr Cys Lys Gln Leu Lys Thr Arg Leu Ala Lys Asp Phe Ala Lys Ala
 4244 290 295 300
 4246 Phe Phe Leu Asn Leu Leu Leu Lys Ser Cys Ile Leu Cys Glu Leu
 4247 305 310 315 320
 4249 Arg Gly Ile Tyr Arg Pro Gln Glu Asp Leu Asn Leu Gly Ser Lys Phe
 4250 325 330 335
 4252 Arg Met Leu Leu Gly Ser Arg Gly Cys Arg Cys His Arg Leu Ser Val
 4253 340 345 350
 4255 Phe Asp Thr Gly Gln Cys Thr Ser Gly Ala Thr Ala Gly Pro Leu Gly
 4256 355 360 365
 4258 Cys Trp Ala Val Pro Pro Arg Leu Phe Gln Leu Thr Gly Trp Ile
 4259 370 375 380
 4262 Pro Asn Leu Thr Gln Thr Ser Pro Asn Ser Gly Pro Ile Asp Pro Pro
 4263 385 390 395 400
 4265 Asp Tyr Arg Ile Asn Pro Ser Pro Leu Tyr Ala Asn Tyr Ala Thr Glu
 4266 405 410 415
 4268 Asn Ile Val Leu Ser Lys Phe Leu Thr Gly Lys Arg Arg Val Phe Phe
 4269 420 425 430
 4271 Arg Arg Ser Phe Gly Arg Leu Leu Ile Tyr Leu Trp Ile Ser Ser Ser
 4272 435 440 445
 4274 Gly Leu Leu Val Gly Ser Arg Ser Cys Gly Glu Phe Ser Glu Pro Asn
 4275 450 455 460
 4277 Leu Leu Gly Asp Leu Arg Lys Pro Pro Met Ile Ser Ser Ala Asp Phe

Dane

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4278	465	470	475	480
4280	Arg Lys Leu Arg Gln Val Pro Asp Phe Phe Ser Val Gly Ser Asp Ser			
4281	485	490	495	
4283	Ile Ser Asn Glu Thr Ser Asp Ser Leu Asn Val His Arg Thr Leu Arg			
4284	500	505	510	
4286	Ala Cys Phe Ile Phe Ser Gly Tyr His Ser Ser Tyr Ile Leu Asn Ser			
4287	515	520	525	
4289	Ile Ile Trp Ile Arg Leu Ile Asn Pro Ser Ile Asp Phe Ile Ile Lys			
4290	530	535	540	
4292	Ile Arg His Ser Thr Asn Ile Arg Thr Gln Pro Ile Arg Leu Leu Arg			
4293	545	550	555	560
4295	Asp Tyr Leu Leu Ser Val Arg Glu Val Ser Glu Ser Ser Arg Ser Cys			
4296	565	570	575	
4298	His Leu Leu Ala Glu His Val Ser Leu Ile Gln Ile Gln Ser Ser Gln			
4299	580	585	590	
4301	Leu Phe Pro Thr Arg Leu Phe Phe Tyr Tyr Phe Lys Asn Ser Asn Gln			
4302	595	600	605	
4304	Asn Arg Tyr Lys Ile Thr Arg Asp Thr Val Thr Cys Ser Leu Glu Ser			
4305	610	615	620	
4307	Ile Asn Ser Arg Ile His Arg Arg Arg Gln Leu His His Pro Leu Phe			
4308	625	630	635	640
4310	Pro Thr Pro Cys Arg Met Ala Leu Leu Met Thr Asp His His Lys Leu			
4311	645	650	655	
4313	Ala Phe Gly Cys Ala Gln Arg Glu Arg Asp Arg Pro Ile Ala Ser Ser			
4314	660	665	670	
4316	Phe Thr Met Ala Ile Arg Ser Pro Ala Ser Leu Leu Leu Phe Ala Phe			
4317	675	680	685	
4319	Leu Met Leu Ala Leu Thr Gly Arg Leu Gln Ala Arg Arg Ser Ser Cys			
4322	690	695	700	
4324	Ile Gly Val Tyr Trp Gly Gln Asn Thr Asp Glu Gly Ser Leu Ala Asp			
4325	705	710	715	720
4327	Ala Cys Ala Thr Gly Asn Tyr Glu Tyr Val Asn Ile Ala Thr Leu Phe			
4328	725	730	735	
4330	Lys Phe Gly Met Gly Gln Thr Pro Glu Ile Asn Leu Ala Gly His Cys			
4331	740	745	750	
4333	Asp Pro Arg Asn Asn Gly Cys Ala Arg Leu Ser Ser Glu Ile Gln Ser			
4334	755	760	765	
4336	Cys Gln Glu Arg Gly Val Lys Val Met Leu Ser Ile Gly Gly Gly			
4337	770	775	780	
4339	Ser Tyr Gly Leu Ser Ser Thr Glu Asp Ala Lys Asp Val Ala Ser Tyr			
4340	785	790	795	800
4342	Leu Trp His Ser Phe Leu Gly Gly Ser Ala Ala Arg Tyr Ser Arg Pro			
4343	805	810	815	
4345	Leu Gly Asp Ala Val Leu Asp Gly Ile Asp Phe Asn Ile Ala Gly Gly			
4346	820	825	830	
4348	Ser Thr Glu His Tyr Asp Glu Leu Ala Ala Phe Leu Lys Ala Tyr Asn			
4349	835	840	845	
4351	Glu Gln Glu Ala Gly Thr Lys Lys Val His Leu Ser Ala Arg Pro Gln			
4352	850	855	860	

RAW SEQUENCE LISTING

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Input Set : A:\pto.amc.txt

Output Set: N:\CRF4\03202003\I892635.raw

4354 Cys Pro Phe Pro Asp Tyr Trp Leu Gly Asn Ala Leu Arg Thr Asp Leu
 4355 865 870 875 880
 4357 Phe Asp Phe Val Trp Val Gln Phe Phe Asn Asn Pro Ser Cys His Phe
 4358 885 890 895
 4360 Ser Gln Asn Ala Ile Asn Leu Ala Asn Ala Phe Asn Asn Trp Val Met
 4361 900 905 910
 4363 Ser Ile Pro Ala Gln Lys Leu Phe Leu Gly Leu Pro Ala Ala Pro Glu
 4364 915 920 925
 4366 Ala Ala Pro Thr Gly Gly Tyr Ile Pro Pro His Asp Leu Ile Ser Lys
 4367 930 935 940
 4369 Val Leu Pro Ile Leu Lys Asp Ser Asp Lys Tyr Ala Gly Ile Met Leu
 4370 945 950 955 960
 4372 Trp Thr Arg Tyr His Asp Arg Asn Ser Gly Tyr Ser Ser Gln Val Lys
 4373 965 970 975
 4375 Ser His Val Cys Pro Ala Arg Arg Phe Ser Asn Ile Leu Ser Met Pro
 4376 980 985 990
 4378 Val Lys Ser Ser Lys Thr Thr Ala Met Ile Gly Gly Arg Lys Leu Arg
 4379 995 1000 1005
 4382 Ser Ser Trp Val Pro Ile Arg Ile Arg Ala Leu Leu Arg Tyr Gly Val
 4383 1010 1015 1020
 4385 Ser Leu Val Cys Trp Ser Phe Gln Tyr Asn Lys Gly Leu Val Leu Arg
 4386 1025 1030 1035 1040
 4388 Phe His Ile Phe His Val Arg Lys Gln Tyr Ile Cys Cys Pro Phe Gln
 4389 1045 1050 1055
 4391 Ile Lys Arg Asn Lys Tyr Ile Thr Lys Asn Ile Leu Phe Phe Ser
 4392 1060 1065 1070
 4394 Phe Asp Lys Tyr Ile Thr Leu Asn Phe Pro Asn Cys Leu Ser Lys Arg
 4395 1075 1080 1085
 4397 Tyr Lys Ser Ser Ser Thr Gln Lys Thr Asn Pro Leu Leu Asp Cys Cys
 4398 1090 1095 1100
 4400 Leu Leu Val Pro Lys Trp Arg Arg Glu Lys Leu Val Leu Pro Ala Ile
 4401 1105 1110 1115 1120
 4403 Thr Ser Ser Ser Thr Leu Ser Ser Leu Pro Cys Leu Val Thr Pro Tyr
 4404 1125 1130 1135
 4406 Ser Arg Asp Gln Asp Thr Pro Leu Glu Gln Phe Leu Gly Lys Leu Ile
 4407 1140 1145 1150
 4409 Phe Phe Ser Ala Pro Arg Arg Pro Ile Leu Gly Ser Ser Pro Glu Trp
 4410 1155 1160 1165
E--> 4412 Cys Pro Leu Arg His Arg Arg Ser Thr Ala Xaa Ile His Ser Ser Asp
 4413 1170 1175 1180
 4415 Tyr Val Trp Val Gln Phe Tyr Tyr Thr Gly Asn Ser Gln Met Pro Gly
 4416 1185 1190 1195 1200
 4418 Asn Asn Gly Phe Ser Ile Leu His Gly Arg Cys Ser Leu Asp Phe Leu
 4419 1205 1210 1215
 4421 Leu Leu Leu Arg Leu Leu Glu Gly Ala Pro Phe His Ser Tyr Thr Cys
 4422 1220 1225 1230
 4424 Leu Ile Ile Lys Asn Tyr Ser Lys Tyr Arg Gly Ile Ile Lys Ile Lys
 4425 1235 1240 1245
 4427 Lys Lys Gly Arg Met Gly Ile Arg Ile Lys Thr Glu Thr Gly His Glu

Mane

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/892,635

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

4428	1250	1255	1260
4430	Glu Arg Phe Glu Arg Gln Thr Thr Val Asp Gly Ser Leu Leu Trp Thr		
4431	1265	1270	1275
4433	Trp Ile Val Pro Lys Ala Val Gln Val Phe Met Asn Arg Ser Ile Gly		1280
4434	1285	1290	1295
4436	Ser Ala Phe Lys Asn Arg Glu Asp Asn Arg Pro Lys Arg Asn Asn Lys		
4437	1300	1305	1310
E--> 4439	Leu Trp Ala Phe Xaa Ile Asn Arg Thr Val Pro Ser Val Arg Cys Met		<i>Some</i>
4442	1315	1320	1325
4444	Asp Gly Gly Ile Ser Arg Val Asn Leu Arg Lys Ile Val Pro Ala Pro		
4445	1330	1335	1340
4447	Leu Pro Arg Pro Thr Arg Ser Val Leu Ser Pro Thr Pro Tyr Thr Phe		
4448	1345	1350	1355
4450	Phe Phe Phe Arg Ser Cys Asp Arg Leu Phe Asp Phe Val Tyr Asp Ile		1360
4451	1365	1370	1375
4453	Gln Phe Leu Phe Trp Ser Gly Ile Leu Phe Phe Leu Arg Leu Leu Tyr		
4454	1380	1385	1390
4456	Thr Ile Ser Phe Gly Leu Ser Ala Trp Arg Arg Val Ser Gly Asp Gly		
4457	1395	1400	1405
4459	Ser Gln Ile Pro Cys Phe Leu Leu Pro Lys Trp Cys Lys Ile Arg Pro		
4460	1410	1415	1420
4462	Ile Gly Phe Phe Ser His Phe Lys Leu Asn Tyr Ala Val Ile Leu Val		
4463	1425	1430	1435
4465	Arg Leu Trp Arg Ile Cys Ser Ile Ser Lys Glu Ile Ala Ala Phe Phe		
4466	1445	1450	1455
4468	Leu Val Pro Ile Lys Phe Ala Phe Gly Ser Glu Tyr Pro Arg Met Ser		
4469	1460	1465	1470
4471	Tyr Arg Gln Arg Phe Phe Arg Ile Leu Ile Leu Cys Pro Val Phe		
4472	1475	1480	1485
4474	Cys Asp Leu Met Glu Lys Ile Leu Phe Leu Leu Val Ile Tyr Ala Leu		
4475	1490	1495	1500
4477	Pro Thr Ile Arg Met Arg Val Glu Gly Glu Asn Thr Phe Trp Phe Ser		
4478	1505	1510	1515
4480	Ser Leu Asn Ser Ser Lys His Asp Thr Ser Ile Ile Ile Asp Gln Asp		1520
4481	1525	1530	1535
4483	Phe Phe Leu Cys Thr Asp Ser His Phe Pro Ser Leu Cys Val Met Val		
4484	1540	1545	1550
4486	Ile Val Val Thr Asp Gly Cys Leu Thr His Gly Val Ala Pro Gly Ser		
4487	1555	1560	1565
4489	Val Asp Leu Gln Val Asp		
4490	1570		
4493	<210> SEQ ID NO: 31		
4494	<211> LENGTH: 1562		
4495	<212> TYPE: PRT		
4496	<213> ORGANISM: Musa acuminata		
4498	<400> SEQUENCE: 31		
4499	Arg Ile Pro Thr Phe Arg Asn Gly Ser Asn Phe Ser Tyr Lys Phe Lys		
4502	1	5	10
4504	Val Arg Lys Ile Phe Thr Lys Ser Phe Glu Ser Ile Asp Asp Ile Arg		15

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

4505	20	25	30	
4507	Glu Thr Val Tyr Met Ser Pro Met Asp Ser Leu Gly Phe Ile Arg Lys			
4508	35	40	45	
4510	Ser Ser Lys Glu Cys Ile Arg Ile Leu Ile Leu Asp Ser Phe Thr Arg			
4511	50	55	60	
4513	Leu Val Pro Ser Val Thr Ser Arg Val Leu Gln Ile Ser Lys Ala Glu			
4514	65	70	75	80
4516	Ser Gln Ile Glu Met Leu Asn Ser Phe Leu Ser Asn Ala Gln Asn Arg			
4517	85	90	95	
4519	Ala Phe Ile Ala Phe Val Phe Lys Ala Lys Thr Phe Phe Ser Asp Ser			
4520	100	105	110	
4522	Ser His Ser Leu Ile Gly Arg Glu Asn Phe Asn Pro Phe Ser Thr Ile			
4523	115	120	125	
4525	Asp Gln Ser Ser Lys Ser Met Glu Met Arg Lys Ile Leu Ile Val Phe			
4526	130	135	140	
4528	Gln Tyr Met Phe Asp Ser Leu Asn Ile Gly Gly Cys Val Met Lys Pro			
4529	145	150	155	160
E--> 4531	Ser Cys Xaa Ile Ser Leu Gly Tyr Thr Lys Tyr Glu Ser Glu Pro Cys			
4532	165	170	175	
4534	Ser Asp Thr Asn Cys Asp Gln Ser Gly Thr Lys Arg Gly Glu Ile			
4535	180	185	190	
4537	Ser Ala Val Asp Asn Leu Val Lys Ile Arg Lys Tyr Glu Lys Ile Ser			
4538	195	200	205	
4540	Phe Leu Glu Met Lys Thr Lys Ser Gln Cys Lys Gln Phe Arg Glu Ser			
4541	210	215	220	
4543	Lys Asn Ser His Ile Gln Gly Thr Tyr Gln Phe Lys Val Val Arg Ser			
4544	225	230	235	240
4546	Lys Pro Thr Ser Thr Cys Glu Ala Phe Phe Glu Glu Ala Pro Asn Phe			
4547	245	250	255	
E--> 4549	His Gln Ile Thr Leu Lys Gly Lys Asp Lys Tyr Leu Ser Tyr Xaa Leu			
4550	260	265	270	
4552	Leu Gln Trp Phe Ile Leu Leu Gln Ile Phe Asn Glu Lys Glu Gly Gly			
4553	275	280	285	
4555	Glu His Ala Ser Asn Lys Gln Asp Leu Leu Lys Thr Leu Leu Arg Leu			
4556	290	295	300	
4558	Phe Phe Ser Ile Tyr Cys Phe Ser Lys Val Val Phe Ser Ala Glu Asn			
4559	305	310	315	320
4562	Gly Val Phe Ile Asp Pro Lys Arg Ile Ile Trp Ala Pro Asn Phe Glu			
4563	325	330	335	
4565	Cys Ser Trp Val Pro Glu Val Ala Gly Ala Thr Ala Cys Gln Cys Leu			
4566	340	345	350	
4568	Thr Leu Asp Ser Val Leu Ala Val Pro Pro Pro Asp Leu Ser Gly Val			
4569	355	360	365	
4571	Gly Arg Cys His Arg Leu Asp Phe Phe Ser Ser Leu Val Gly Phe Gln			
4572	370	375	380	
4574	Thr Pro Lys Pro Val Arg Thr Arg Val Gln Leu Thr Arg Asn Arg Ile			
4575	385	390	395	400
4577	Ile Gly Leu Thr Leu Asn Pro Asn Pro Asn Tyr Met Gln Thr Thr Gln			
4578	405	410	415	

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

4580 Leu Lys Ile Ser Ala Ser Phe Pro Ala Asn Val Glu Ser Ser Ser Gly
 4581 420 425 430
 4583 Asp Leu Ser Ala Asp Phe Tyr Thr Phe Gly Phe Leu Leu Ala Asp Ser
 4584 435 440 445
 4586 Gly Pro Asp Leu Val Ala Ser Leu Ala Ser Ser Arg Thr Phe Ser Val
 4587 450 455 460
 4589 Ile Ser Ala Asn Arg Arg Ser Leu Arg Gln Thr Phe Glu Asn Phe Asp
 4590 465 470 475 480
 4592 Lys Ser Pro Ile Ser Ser Arg Leu Val Pro Thr Ala Ser Leu Thr Lys
 4593 485 490 495
 4595 Leu Arg Thr Pro Met Ser Ile Glu Leu Asp Ser Gly Arg Leu Ala Leu
 4596 500 505 510
 4598 Tyr Phe Gln Ala Ile Ile Val Asn Pro Thr Tyr Leu Thr Gln Tyr Gly
 4599 515 520 525
 4601 Leu Asp Leu Thr His Gln Leu Ile Ser Ser Ser Lys Phe Asp Ile Gln
 4602 530 535 540
 4604 Gln Thr Ser Val Leu Asn Asn Pro Ser Gly Tyr Ser Tyr Val Thr Ile
 4605 545 550 555 560
 4607 Tyr Cys Asp Pro Tyr Val Lys Leu Ala Ser His Asp Pro Gly Arg Val
 4608 565 570 575
 4610 Thr Tyr Trp Pro Asn Thr Tyr Pro Leu Ser Lys Ser Ser Leu Leu Asn
 4611 580 585 590
 4613 Ser Ser Ser Leu Pro Val Ser Phe Phe Ile Thr Phe Glu Arg Ile Gln
 4614 595 600 605
 4616 Ile Lys Thr Asp Thr Lys His Gly Glu Thr Leu His Ala Ser Leu Trp
 4617 610 615 620
 4619 Lys Ala Leu Ile Arg Ala Ser Thr Asp Val Val Ser Phe Ile Thr His
 4622 625 630 635 640
 4624 Phe Phe Leu His Asn His Val Ala Trp Leu Cys Gln Thr Thr Ser
 4625 645 650 655
 4627 Leu Pro Leu Val Val Pro Asn Arg Glu Arg Glu Thr Asp Arg Pro Pro
 4628 660 665 670
 4630 His Ser Leu Trp Arg Ser Asp Arg Gln Leu Arg Cys Cys Tyr Leu Arg
 4631 675 680 685
 4633 Ser Cys Leu Arg Ser Arg Glu Asp Cys Arg Pro Gly Ala Ala His Ala
 4634 690 695 700
 4636 Leu Ala Ser Thr Gly Lys Thr Pro Thr Arg Glu Ala Gln Met Leu Val
 4637 705 710 715 720
 4639 Pro Gln Ala Thr Thr Asn Thr Thr Ser Pro Pro Phe Ser Ser Leu Ala
 4640 725 730 735
 4642 Trp Ala Lys Leu Gln Arg Ser Thr Ser Pro Ala Thr Val Thr Leu Gly
 4643 740 745 750
 4645 Thr Thr Ala Ala Arg Ala Ala Lys Ser Ser Pro Ala Arg Ser Val
 4646 755 760 765
 4648 Ala Ser Arg Cys Ser Pro Ser Glu Val Ala Gly Leu Met Ala Val Pro
 4649 770 775 780
 4651 Pro Lys Thr Pro Arg Thr Arg His Thr Ser Gly Thr Val Ser Trp Val
 4652 785 790 795 800
 4654 Val Leu Leu Leu Ala Thr Arg Asp Pro Ser Gly Met Arg Phe Trp Met

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/892,635

DATE: 03/20/2003
TIME: 11:22:24

Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

4655	805	810	815	
4657	Ala Thr Ser Thr Ser Pro Glu Gly Ala Gln Asn Thr Met Met Asn Leu			
4658	820	825	830	
4660	Pro Leu Ser Ser Arg Pro Thr Thr Ser Arg Arg Pro Glu Arg Arg Lys			
4661	835	840	845	
4663	Phe Thr Val Leu Val Arg Ser Val Leu Ser Arg Ile Thr Gly Leu Ala			
4664	850	855	860	
4666	Thr His Ser Glu Gln Ile Ser Ser Thr Ser Cys Gly Cys Ser Ser Ser			
4667	865	870	875	880
4669	Thr Thr Leu Arg Ala Ile Ser Pro Arg Thr Leu Ser Ile Leu Gln Met			
4670	885	890	895	
4672	Arg Ser Thr Ile Gly Ser Cys Pro Ser Leu Arg Lys Ser Cys Ser Leu			
4673	900	905	910	
4675	Gly Phe Leu Leu Leu Arg Leu Leu Gln Leu Val Ala Thr Phe His			
4676	915	920	925	
4678	Pro Met Ile Ser Tyr Leu Lys Phe Phe Arg Ser Arg Ile Pro Thr Ser			
4679	930	935	940	
4682	Thr Gln Glu Ser Cys Cys Gly Leu Asp Thr Thr Glu Thr Pro Ala			
4683	945	950	955	960
4685	Thr Val Leu Lys Ser Ser Pro Thr Cys Val Gln Arg Val Gly Ser Pro			
4686	965	970	975	
4688	Thr Ser Tyr Leu Cys Arg Ser Leu Pro Ser Lys Pro Glu Arg Arg Arg			
4689	980	985	990	
4691	Ser Val Val Glu Asn Ser Asp His His Gly Ser Pro Ser Val Ser Val			
4692	995	1000	1005	
4694	Arg Cys Tyr Val Met Val Phe Pro Leu Tyr Val Gly Leu Phe Asn Asn			
4695	1010	1015	1020	
4697	Ile Ile Arg Gly Phe Tyr Val Ser Ile Phe Ser Met Phe Glu Asn Ser			
4698	1025	1030	1035	1040
4700	Ile Phe Ala Ala Pro Ser Lys Phe Glu Lys Asp Lys Ile Asn Ile Leu			
4701	1045	1050	1055	
4703	Lys Ile Ser Ser Phe Phe Leu Ser Thr Asn Ile Leu Leu Thr Phe			
4704	1060	1065	1070	
4706	Pro Ile Val Ala Lys Asp Ile Asn Pro Leu Pro His Lys Arg Arg Ile			
4707	1075	1080	1085	
4709	His Asp Cys Trp Ile Ala Val Tyr Trp Cys Arg Asn Gly Asp Glu Arg			
4710	1090	1095	1100	
4712	Ser Leu Cys Tyr Leu Gln Leu Gln Val Arg Gln His Cys Leu Pro Cys			
4713	1105	1110	1115	1120
4715	His Val Trp Arg His Thr Pro Val Ile Arg Thr His Leu Trp Asn Ser			
4716	1125	1130	1135	
4718	Phe Leu Gly Ser Ser Ser Arg Leu Leu Gly Asp Gln Ser Cys Glu			
4719	1140	1145	1150	
4721	Val Leu Leu Leu Asn Gly Val His Phe Asp Ile Glu Gly Leu Pro Glu			
4722	1155	1160	1165	
E--> 4724	Arg Xaa Ser Thr Val Pro Thr Cys Gly Cys Ser Ser Thr Thr Gln			
4725	1170	1175	1180	
4727	Ala Thr Arg Arg Cys Pro Val Thr Met Gly Ser Pro Ser Cys Met Glu			
4728	1185	1190	1195	1200

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

4730 Gly Val Pro Trp Thr Ser Cys Cys Ser Ser Gly Cys Trp Lys Glu Leu
 4731 1205 1210 1215
 4733 His Ser Thr Ser Asp Leu Thr Arg Val Leu Ser Ser Arg Ile Ile Ala
 4734 1220 1225 1230
 4736 Ser Thr Glu Gly Leu Leu Lys Lys Lys Arg Glu Glu Trp Glu Leu Glu
 4737 1235 1240 1245
 4739 Leu Lys Leu Lys Pro Ala Met Lys Asn Val Ser Ser Glu Asp Lys Arg
 4742 1250 1255 1260
 4744 Gln Tyr Glu Thr Val Val Cys Tyr Gly His Gly Ser Phe Pro Lys Gln
 4745 1265 1270 1275 1280
 4747 Ser Lys Ser Leu Thr Gly Leu Ser Val Gln Pro Ser Arg Thr Ala Arg
 4748 1285 1290 1295
E--> 4750 Ile Thr Gly Pro Arg Glu Thr Thr Asn Cys Gly Glu Leu Leu Xaa Thr
 4751 1300 1305 1310
 4753 Glu Arg Cys Arg Pro Ser Asp Val Lys Trp Thr Ala Asp Arg Ser Pro
 4754 1315 1320 1325
 4756 Glu Ile Gly Lys Ser Phe Arg Pro Pro Tyr His Asp Pro Arg Asp Pro
 4757 1330 1335 1340
 4759 Ser Ser Pro Pro Pro Thr Pro Phe Ser Ser Ser Ala Pro Ala Ile
 4760 1345 1350 1355 1360
 4762 Gly Tyr Leu Ile Leu Cys Met Ile Ser Asn Phe Phe Ser Gly Val Val
 4763 1365 1370 1375
 4765 Ser Tyr Ser Asn Phe Leu Asp Cys Cys Ile Glu Pro Ser Val Leu Val
 4766 1380 1385 1390
 4768 Ala His Asp Gly Gly Glu Phe Arg Glu Met Gly Val Arg Ser Leu Val
 4769 1395 1400 1405
 4771 Phe Cys Cys Arg Ser Gly Ala Arg Phe Gly Arg Val Phe Ser Leu Ile
 4772 1410 1415 1420
 4774 Leu Ser Ser Ile Met Arg Ser Phe Leu Leu Gly Phe Gly Glu Phe Ala
 4775 1425 1430 1435 1440
 4777 Leu Phe Arg Lys Lys Leu Leu Ser Ser Phe Asp Ser Leu Asn Leu
 4778 1445 1450 1455
 4780 Leu Ser Val Leu Asn Ile Arg Glu Cys Arg Ile Val Asn Asp Asp Ser
 4781 1460 1465 1470
 4783 Phe Leu Glu Phe Tyr Phe Val Leu Phe Ser Val Ile Trp Arg Lys Tyr
 4784 1475 1480 1485
 4786 Cys Ser Phe Ser Met Leu Ser Arg Pro Leu Gly Gly Leu Lys Val Lys
 4787 1490 1495 1500
 4789 Ile Leu Ser Gly Asn Phe Pro Leu Ile Leu Pro Asn Thr Thr Gln Val
 4790 1505 1510 1515 1520
 4792 Leu Thr Lys Ile Asp Ser Ser Tyr Ala Pro Ile Leu Thr Ser Leu Pro
 4793 1525 1530 1535
 4795 Ser Val Leu Trp Leu Ser Leu Leu Met Val Ala Leu Met Gly Arg
 4796 1540 1545 1550
 4798 Leu Gly Asp Pro Leu Thr Cys Arg Ser Thr
 4799 1555 1560
 4993 <210> SEQ ID NO: 34
 4994 <211> LENGTH: 758
 4995 <212> TYPE: PRT

RAW SEQUENCE LISTING
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DATE: 03/20/2003
TIME: 11:22:24

Input Set : A:\pto.amc.txt

Output Set: N:\CRF4\03202003\I892635.rpt

4996 <213> ORGANISM: *Musa acuminata*
 4998 <400> SEQUENCE: 34
 4999 Ser Leu Val Arg Gly Pro Pro Arg Gly Arg Arg Tyr Arg Ala Leu Ile
 5000 1 5 10 15
 5002 Ser Ser Leu Asn Leu Ser Leu Ser Leu Ser Leu Ser Leu Ser Leu Tyr
 5003 20 25 30
 5005 Val Phe Lys Tyr Gly Cys Asn Ala Glu Leu Leu Cys Leu Ser Trp Pro
 5006 35 40 45
 5008 Asn Cys Val His Leu Ala Asp Lys Ser Gly Asp Asn Val Leu Phe Thr
 5009 50 55 60
 5011 Glu Ser Thr Ala Gly Gly Pro Glu Ile Thr Ser Asp Ala His Trp Val
 5012 65 70 75 80
 5014 Met Met Ile Trp Thr Pro Pro Gln Arg Ala Ala Met Gly Cys Glu Ile
 5015 85 90 95
 5017 His Ile Ala Ala Ile Arg Glu Ala Arg Asn Thr Arg Leu Leu Leu Phe
 5018 100 105 110
 5020 Gln Arg Ser Lys Gly Gln Ala Thr Val Thr Ile Asp Phe Phe Glu His
 5021 115 120 125
 5023 Asp Asp Asn Asp Asp Leu Leu Leu Gln Tyr Pro Ser Pro Thr Val Glu
 5024 130 135 140
 5026 Trp Glu Met Gly Leu Leu His Tyr Phe Ser Gln Glu Leu Ile Glu Ser
 5027 145 150 155 160
 5029 Pro Ala Asn Cys Cys Phe Ser Phe Leu Ile Leu Asn Leu Pro Pro Val
 5030 165 170 175
 5032 Thr Leu Lys Leu His Val Lys Thr Phe Leu Tyr Gly Ser Glu His Glu
 5033 180 185 190
 5035 Ile Tyr His Ser Asn Gly Asp Leu His Tyr His His His His His Leu
 5036 195 200 205
 5038 His Gly Phe Gly Ser Asn Thr Glu Asn Leu Ile Asn Pro Thr Pro Ile
 5039 210 215 220
 5042 Leu Ala Leu Ala Pro Ser Pro Arg Lys Ile Gln Gln Glu Gln Lys
 5043 225 230 235 240
 5045 Phe Arg Met His Ile Glu Leu Ile Trp Ser Leu Glu Asn His Gly Leu
 5046 245 250 255
 5048 Lys Ile Leu Lys Ile Asn His Asn His Leu Leu Thr Leu Thr Ile His
 5049 260 265 270
 5051 Ile Leu Ser Thr Lys Phe Asp Ile Gly Phe Leu Ile Ser Tyr Ile Arg
 5052 275 280 285
 5054 Phe Lys Ile Ser Pro Phe Asp Arg Ile Asn Ile Ser Phe Asn Ser Leu
 5055 290 295 300
 5057 Gly Lys Asp Leu Ile Tyr Ile Tyr Ile Tyr Ile Phe Ile Tyr Ile Leu
 5058 305 310 315 320
 5060 Thr Ile Ser Leu Thr Arg Ile Ile Asp Gly His Ile Cys Lys Asn Pro
 5061 325 330 335
 5063 Pro Ile Val His Ser Lys Arg Ser Leu Asn Gly Arg Asn Tyr Phe Ile
 5064 340 345 350
 5066 Ser Arg Asp Phe Gln Asn Ile Leu Val Ser Phe Thr Val Met Met Leu
 5067 355 360 365
 5069 Arg Met Ile Arg Trp Lys Asp Ala Cys Val Ser Arg Leu Arg Ser Leu

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PATENT APPLICATION: US/09/892,635

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

5070	370	375	380
5072	Trp Arg Gly Arg Asp Glu Asp Lys Asp Val Ser Gly Arg Tyr Gln Val		
5073	385	390	395 400
5075	Phe Ser Ser Pro Thr Thr His Val Ser Asp Ser Arg Tyr Gly Leu Ser		
5076	405	410	415
5078	Arg Trp Arg Val Asp Cys Thr Asp Glu Arg Val Asn Ala His Pro Pro		
5079	420	425	430
5081	Ser Phe Ile Leu Ser Leu Cys Val Cys Glu Arg Ser Ala Tyr Lys Ala		
5082	435	440	445
5084	Arg Asn Lys Pro Leu Phe Ser Pro Arg Thr His His Thr Ile His Thr		
5085	450	455	460
5087	Leu His Pro Leu Leu Leu Arg Ala Phe Ser Pro Ser Phe Leu Val Pro		
5088	465	470	475 480
5090	Cys Arg Pro Ala Ala Thr Ala Thr Ala Leu Thr Arg Ala Ser Ala Cys		
5091	485	490	495
5093	Lys Ser Ser Ser Ile Pro Pro Pro Leu Leu Leu Leu Leu Leu Leu		
5094	500	505	510
5096	Leu Leu Thr Ser Pro Arg Leu Cys Leu Met Ser Arg Leu Phe Pro His		
5097	515	520	525
5099	Arg Ser Ser Lys Leu Arg Ala Leu Leu Gly Asn Ile Ser Asn Thr Ile		
5102	530	535	540
E--> 5104	Cys Ile Cys Xaa Arg Ser Thr Leu Ala Glu Glu Leu Gly Phe Ala Phe		
5105	545	550	555 560
5107	Ala Gly Arg Lys Glu Thr Ala Thr Val Ser Ile Leu Leu Arg Pro Arg		
5108	565	570	575
5110	Arg Gly Thr Asp Leu Leu Leu Pro Pro Pro Arg Arg Gly Ser Asn Leu		
5111	580	585	590
5113	Gly Leu His Leu Ile Thr Leu Pro Asn Ala Phe Ser Val Phe Val Ser		
5114	595	600	605
5116	Ser Leu Gln Leu Arg Arg Gly Asp Arg Cys Arg Arg Ser Cys Arg		
5117	610	615	620
5119	Ala Arg Gln Val Gln Val Arg Arg Arg Leu Arg Leu His Arg Leu Gln		
5120	625	630	635 640
5122	Val Trp Gln Leu Arg Ser Thr Cys Val Thr Thr Lys Lys Phe Ala		
5123	645	650	655
5125	Met His Lys Lys Gln Lys Asn Lys Lys Lys Gly Arg Arg Arg Arg		
5126	660	665	670
5128	Cys Tyr Val Leu Phe Gly Gln Ala Asp Arg Leu Asp Gly Ile Thr Gln		
5129	675	680	685
5131	Tyr His Leu Cys Tyr Leu Cys Pro Val Leu Gln Leu Ser Tyr Leu Ser		
5132	690	695	700
5134	Ser Met Lys Tyr Tyr Tyr Ser Gly Cys Val Ile His Ile Cys Cys Cys		
5135	705	710	715 720
5137	Cys Cys Cys Phe Leu Phe His Gln Ser Thr Gln Arg Ile Asp Cys Thr		
5138	725	730	735
5140	Val Arg Pro Asn Phe Leu Thr Asp Met Leu Ala Gln Leu Arg Met Asn		
5141	740	745	750
5143	Ser Asn Gln Thr Ser Leu		
5144	755		

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

5147 <210> SEQ ID NO: 35
 5148 <211> LENGTH: 758
 5149 <212> TYPE: PRT
 5150 <213> ORGANISM: Musa acuminata *P35*
 5152 <400> SEQUENCE: 35
 5153 His Trp Tyr Gly Ala Pro Leu Glu Val Asp Gly Ile Asp Lys Leu Ser
 1 5 10 15
 5154 Leu Leu Ser Ile Ser Leu Ser Leu Ser Leu Ser Leu Cys Met
 20 25 30
 5155 Ser Leu Asn Met Val Val Met Leu Asn Cys Tyr Val Tyr Leu Gly Gln
 35 40 45
 5156 Thr Val Ser Ile Phe Glu Gln Ile Asn Leu Ala Ile Met Phe Phe Leu
 50 55 60
 5157 Leu Lys Ala Leu Gln Asp Glu Gly Leu Lys Ser His Arg Thr Pro Thr
 65 70 75 80
 5158 Gly Ser Tyr Gly Leu Leu His Ser Glu Gln Pro Trp Asp Val Arg Ser
 85 90 95
 5159 Thr Gln Arg Arg Gly Lys Pro Ala Thr Leu Gly Cys Cys Cys Ser Ser
 100 105 110
 5160 Lys Asp Arg Lys Val Arg Arg Gln Arg Ser Thr Phe Ser Ser Met Met
 115 120 125
 5161 Thr Thr Thr Cys Ser Cys Asn Ile Arg Pro Leu Pro Ser Gly Asn
 130 135 140
 5162 Lys Trp Val Cys Ser Cys Thr Ile Ser Arg Arg Asn Leu Lys Ala Leu
 145 150 155 160
 5163 Gln Ile Ala Val Ser Leu Ser Leu Tyr Thr Phe Leu Leu His Asn
 165 170 175
 5164 Cys Met Leu Arg His Phe Cys Met Asp Pro Asn Met Arg Ser Ile Ile
 180 185 190
 5165 Glu Val Met Gly Arg Ile Tyr Ile Ile Ile Ile Ile Ser Met
 195 200 205
 5166 Gly Leu Asp Leu Ile Arg Pro Lys Thr Ser Phe Lys Ile Gln Pro Gln
 210 215 220
 5167 Tyr Trp Leu Asp Leu Leu His Leu Gln Glu Lys Tyr Asn Lys Asn Asn
 225 230 235 240
 5168 Lys Asn Leu Gly Cys Thr Leu Asn Phe Gly His Tyr Glu Arg Ile Met
 245 250 255
 5169 Asp Lys Tyr Asn Lys Ile Ile Ile Tyr Ser Leu Arg Phe Thr
 260 265 270
 5170 Phe Tyr Pro Pro Asn Leu Thr Ser Ala Ser Asn Phe His Ile Leu Gly
 275 280 285
 5171 Ser Lys Lys Ser Leu Pro Leu Thr Asp Glu Ile Phe Leu Leu Ile Arg
 290 295 300
 5172 Gly Arg Ile Tyr Asn Ile Tyr Ile Tyr Ile Tyr Leu Phe Ile Arg Phe
 305 310 315 320
 5173 Pro Phe Leu Ser Pro Glu Tyr Glu Ser Thr Ala Ile Ser Ala Lys Thr
 325 330 335
 5174 His Gln Leu Phe Thr Val Asn Ala His Ile Lys Val Glu Ile Thr Phe
 340 345 350

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

5222 Lys Phe Leu Glu Ile Ser Asn Lys Ile Tyr Ser Tyr Leu Leu Gln Cys
 5223 355 360 365
 5225 Ser Gly Asp Gly Arg Met Arg Val Ser Ala Ala Cys Asp Leu Cys Gly
 5226 370 375 380
 5228 Gly Asp Glu Thr Lys Thr Arg Thr Ala Asp Asp Thr Lys Ser Ser Pro
 5229 385 390 395 400
 5231 Pro Pro Pro Arg Thr Ser Gln Ile Pro Asp Thr Ala Tyr Pro Gly Gly
 5232 405 410 415
 5234 Val Trp Thr Ala Gln Thr Asn Glu Met Pro Ile Pro Pro Leu Ser Phe
 5235 420 425 430
 5237 Phe Leu Phe Ala Cys Val Arg Gly Ala Pro Ile Asn Lys His Glu Thr
 5238 435 440 445
 5240 Ser Pro Phe Ser Leu Gln Glu His Thr Thr Pro Phe Thr His Tyr Ile
 5241 450 455 460
 5243 Leu Cys Phe Phe Glu Pro Phe Arg Leu Pro Ser Ser Asn His Val
 5244 465 470 475 480
 5246 Asp Leu Arg Gln Leu Arg Leu Arg Gln Glu Pro Val Arg Val Ser His
 5247 485 490 495
 5249 Pro Pro Ser Leu His Leu Phe Phe Phe Phe Phe Phe Pro Arg
 5250 500 505 510
 5252 Pro Val Cys Val Val Asp Ser Ser His Ile Ala Arg Gln Asn Ser Glu
 5253 515 520 525
 E--> 5255 Leu Tyr Gly Thr Ser Ala Ile Leu Tyr Val Tyr Val Xaa Gly Gln Arg
 5256 530 535 540
 5258 Trp Leu Lys Asn Leu Val Leu Pro Leu Gln Glu Glu Arg Lys Gln Leu
 5259 545 550 555 560
 5261 Arg Tyr Arg Tyr Cys Asp Arg Glu Glu Val Leu Ile Ser Phe Phe Ser
 5262 565 570 575
 5264 Leu Leu Leu Val Glu Asp Asp Gln Thr Asn Asp Tyr Thr Leu Leu Pro
 5265 580 585 590
 5267 Tyr Leu Met Leu Phe Pro Val Ser Phe Arg Leu Phe Ser Tyr Val Asp
 5268 595 600 605
 5270 Glu Val Ile Val Ala Ala Glu Ala Ala Glu His Asp Gly Lys Cys Lys
 5271 610 615 620
 5273 Cys Gly Ala Ala Cys Ala Cys Thr Asp Cys Lys Cys Gly Asn Glu Ala
 5274 625 630 635 640
 5276 Leu Val Ser Leu Pro Leu Asn Asn Lys Ser Leu Gln Cys Ile Lys Asn
 5277 645 650 655
 5279 Lys Arg Thr Lys Lys Lys Glu Glu Glu Gly Val Ala Met Tyr
 5282 660 665 670
 5284 Ser Asn Asn Ser Gly Arg Leu Ile Gly Cys Lys Met Gly Arg Ser Ile
 5285 675 680 685
 5287 Ile Cys Val Ile Ser Val Leu Cys Tyr Asn Ser Pro Ile Tyr Pro Ser
 5288 690 695 700
 5290 Gln Asn Ile Ile Ser Ile Asn Leu Val Val Ser Phe Ile Tyr Ala Ala
 5291 705 710 715 720
 5293 Ala Ala Ala Ala Ser Ser Phe Thr Asn Gln Pro Lys Gly Ser Ile Ala
 5294 725 730 735
 5296 Leu Gly Pro Thr Ser Ser Pro Ile Cys Ser Leu Ser Tyr Asp Glu Thr

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

5297 740 745 750
 5299 Ala Thr Lys Arg Val Cys
 5300 755
 5303 <210> SEQ ID NO: 36
 5304 <211> LENGTH: 762
 5305 <212> TYPE: PRT
 5306 <213> ORGANISM: Musa acuminata
 5308 <400> SEQUENCE: 36
 R.37
 5309 Leu Thr Gly Thr Gly Pro Pro Ser Arg Ser Thr Val Ser Ile Ser Phe
 5310 1 5 10 15
 5312 Asp Leu Phe Ser Gln Ser Leu Ser Leu Ser Leu Ser Leu Ser Leu Ser
 5313 20 25 30
 5315 Val Cys Leu Ile Trp Leu Cys Ile Ala Met Phe Ile Leu Ala Lys Leu
 5316 35 40 45
 5318 Cys Pro Ser Leu Ser Arg Ile Trp Arg Cys Ser Phe Tyr Lys His Cys
 5319 50 55 60
 5321 Arg Met Arg Ala Asn His Ile Gly Arg Pro Leu Gly His Asp Asp Met
 5322 65 70 75 80
 5324 Asp Ser Ser Thr Ala Ser Ser His Gly Met Asp Pro His Ser Ser Val
 5325 85 90 95
 5327 Asp Lys Gly Ser Pro Gln His Ala Val Val Val Pro Val Lys Ile Glu
 5328 100 105 110
 5330 Arg Ser Gly Asp Ser Asp Asp Arg Leu Phe Arg Ala Gln Arg Arg Pro
 5331 115 120 125
 5333 Ala Pro Ala Ile Ser Val Pro Tyr Arg Arg Val Gly Ile Asn Gly Phe
 5334 130 135 140
 5336 Val Val Ala Leu Phe Leu Ala Gly Ile Asn Lys Pro Cys Lys Leu Leu
 5337 145 150 155 160
 5339 Phe Leu Phe Pro Tyr Ile Lys Pro Ser Ser Cys Tyr Ile Lys Ile Ala
 5342 165 170 175
 5344 Cys Asp Ile Ser Val Trp Ile Arg Thr Asp Leu Ser Leu Lys Trp Val
 5345 180 185 190
 5347 Gly Phe Thr Leu Ser Ser Ser Ser Pro Trp Val Trp Ile Leu
 5348 195 200 205
 5350 Asp Arg Lys Pro His Leu Lys Ser Asn Pro Asn Ile Gly Leu Thr Cys
 5351 210 215 220
 5353 Ser Ile Ser Lys Lys Asn Thr Thr Arg Thr Thr Lys Ile Asp Ala His
 5354 225 230 235 240
 5356 Ile Asp Leu Val Thr Met Arg Glu Ser Trp Ile Lys Asn Ile Lys Ile
 5357 245 250 255
 5359 Lys Asn Lys Ser Ser Ser Thr His Ser Asn Asp Ser His Ser Ile His
 5360 260 265 270
 5362 Gln Ile His Arg Leu Leu Ile Asn Phe Ile Tyr Val Leu Lys Asn Leu
 5363 275 280 285
 5365 Ser Leu Gln Met Asn Lys Tyr Phe Phe Val Arg Glu Gly Ser Asn
 5366 290 295 300
 5368 Ile Ile Tyr Ile Tyr Ile Tyr Ile Tyr Leu Leu Asp Ser Asn His Phe
 5369 305 310 315 320
 5371 Ser His Gln Asn Met Asn Arg Arg Pro Tyr Leu Gln Lys Pro Thr Asn

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

5372	325	330	335
5374	Cys Ser Gln Thr Leu Ile Glu Leu Arg Ser Lys Leu Leu Leu Asn Phe		
5375	340	345	350
5377	Arg Phe Pro Ile Lys Tyr Thr Arg Ile Phe Tyr Ser Asp Asp Ala Pro		
5378	355	360	365
5380	Asp Asp Lys Met Glu Gly Cys Val Cys Gln Pro Pro Ala Ile Ser Val		
5381	370	375	380
5383	Ala Gly Thr Arg Arg Arg Gln Gly Arg Glu Arg Thr Ile Pro Ser Leu		
5384	385	390	395
5386	Leu Leu Pro His His Ala Arg Leu Arg Phe Pro Ile Arg Pro Ile Pro		
5387	405	410	415
5389	Val Ala Cys Gly Leu His Arg Arg Thr Ser Lys Cys Pro Ser Pro Leu		
5390	420	425	430
5392	Phe His Ser Phe Ser Leu Arg Val Glu Glu Arg Leu Ile Ser Thr Lys		
5393	435	440	445
5395	Gln Ala Pro Phe Leu Ser Lys Asn Thr Pro His His Ser His Thr Thr		
5396	450	455	460
5398	Ser Ser Ala Ser Ser Ser Leu Phe Ala Phe Leu Pro Arg Leu Thr Met		
5399	465	470	475
5402	Ser Thr Cys Gly Asn Cys Asp Cys Val Asp Lys Ser Gln Cys Val Val		
5403	485	490	495
5405	Ile Leu His Pro Ser Thr Ser Ser Ser Ser Ser Ser Ser Ser Ser		
5406	500	505	510
5408	Asn Leu Ala Pro Phe Val Phe Asp Glu Ser Thr Leu Pro Thr Ser Leu		
5409	515	520	525
5411	Val Lys Thr Gln Ser Phe Ile Arg Glu His Gln Gln Tyr Tyr Met Tyr		
5412	530	535	540
E--> 5414	Met Xaa Lys Val Asn Val Gly Arg Thr Trp Phe Cys Leu Cys Arg Lys		
5415	545	550	555
5417	Lys GLY Asn Ser Tyr Gly Ile Asp Ile Val Glu Thr Glu Lys Arg Tyr		
5418	565	570	575
5420	Leu Ala Ser Ser Pro Ser Ser Ser Arg Met Ile Lys Leu Ile Arg		
5421	580	585	590
5423	Ile Thr Pro Tyr Tyr Leu Thr Cys Phe Phe Arg Ile Arg Phe Val Ser		
5424	595	600	605
5426	Ser Ala Thr Ser Thr Arg Ser Leu Pro Gln Lys Leu Pro Ser Met Thr		
5427	610	615	620
5429	Ala Ser Ala Ser Ala Ala Pro Pro Ala Pro Ala Pro Thr Ala Ser Val		
5430	625	630	635
5432	Ala Thr Glu Lys His Leu Cys His Tyr His Ile Lys Val Cys Asn Ala		
5433	645	650	655
5435	Lys Thr Lys Glu Gln Lys Lys Arg Lys Lys Lys Val Trp Leu		
5436	660	665	670
5438	Cys Thr Leu Ile Ile Arg Ala Gly Val Val Arg Trp Asp Asn Ala Val		
5439	675	680	685
5441	Ser Ser Val Leu Ser Leu Ser Cys Val Thr Thr Leu Leu Ser Ile Leu		
5442	690	695	700
5444	Val Asn Glu Ile Leu Leu Val Leu Ile Trp Leu Cys His Ser Tyr Met		
5445	705	710	715

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

5447 Leu Leu Leu Leu Leu Pro Leu Ser Pro Ile Asn Pro Lys Asp Arg
5448 725 730 735
5450 Leu His Cys Lys Ala Gln Leu Pro His Arg Tyr Ala Arg Ser Val Thr
5451 740 745 750
5453 Met Asn Glu Gln Gln Pro Asn Glu Ser Ala
5454 755 760
5617 <210> SEQ ID NO: 39
5618 <211> LENGTH: 597
5619 <212> TYPE: PRT
5620 <213> ORGANISM: Musa acuminata
5622 <400> SEQUENCE: 39
P.39
5623 Ser Leu Val Arg Gly Pro Pro Arg Gly Arg Arg Tyr Arg Ala Leu Ile
5624 1 5 10 15
5626 Ser Ser Leu Asn Leu Ser Leu Ser Leu Ser Leu Ser Leu Tyr
5627 20 25 30
5629 Phe Lys Tyr Gly Cys Asn Ala Glu Leu Leu Cys Leu Ser Trp Pro Asn
5630 35 40 45
5632 Cys Val His Leu Ala Asp Lys Ser Gly Asp Asn Val Leu Phe Thr Glu
5633 50 55 60
5635 Ser Thr Ala Gly Gly Pro Glu Ile Thr Ser Asp Ala His Trp Val Met
5636 65 70 75 80
5638 Met Ile Trp Thr Pro Pro Gln Arg Ala Ala Met Gly Cys Glu Ile His
5639 85 90 95
5642 Ala Ala Ile Arg Glu Ala Arg Asn Thr Arg Leu Leu Leu Phe Gln Arg
5643 100 105 110
5645 Ser Lys Gly Gln Ala Thr Val Thr Ile Asp Phe Phe Glu His Asp Asp
5646 115 120 125
5648 Asn Asp Asp Leu Leu Leu Gln Tyr Pro Ser Pro Thr Val Glu Trp Glu
5649 130 135 140
5651 Met Gly Leu Leu His Tyr Phe Ser Gln Glu Leu Ile Glu Ser Pro Ala
5652 145 150 155 160
5654 Asn Cys Cys Phe Ser Phe Leu Ile Leu Asn Leu Pro Pro Val Thr Leu
5655 165 170 175
5657 Lys Leu His Val Lys Thr Phe Leu Tyr Gly Ser Glu His Glu Ile Tyr
5658 180 185 190
5660 His Ser Asn Gly Asp Leu His Tyr His His His His Leu His Gly
5661 195 200 205
5663 Phe Gly Ser Asn Thr Glu Asn Leu Ile Asn Pro Thr Ile Leu Ala Leu
5664 210 215 220
5666 Ala Pro Ser Pro Arg Lys Ile Gln Gln Glu Gln Lys Phe Arg Met
5667 225 230 235 240
5669 His Ile Glu Leu Ile Trp Ser Leu Glu Asn His Gly Leu Lys Ile Leu
5670 245 250 255
5672 Lys Lys Ile Asn His Asn His Leu Leu Thr Leu Thr Ile His Ile Leu
5673 260 265 270
5675 Ser Thr Lys Phe Asp Ile Gly Phe Leu Ile Ser Tyr Ile Arg Phe Lys
5676 275 280 285
5678 Ile Ser Pro Phe Asp Arg Ile Asn Ile Ser Phe Asn Ser Leu Gly Lys
5679 290 295 300

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

5681 Asp Leu Ile Tyr Ile Tyr Ile Tyr Ile Phe Ile Tyr Ile Leu Thr Ile 320
 5682 305 310 315
 5684 Ser Leu Thr Arg Ile Ile Asp Gly His Ile Cys Lys Asn Pro Pro Ile 335
 5685 325 330 335
 5687 Val His Ser Lys Arg Ser Leu Asn Gly Arg Asn Tyr Phe Ile Ser Arg 350
 5688 340 345 350
 5689 Asp Phe Gln Asn Ile Leu Val Ser Phe Thr Val Met Met Leu Arg Met 365
 5691 355 360 365
 5693 Ile Arg Trp Lys Asp Ala Cys Val Ser Arg Leu Arg Ser Leu Trp Arg 380
 5694 370 375 380
 5696 Gly Arg Asp Glu Asp Lys Asp Val Ser Gly Arg Tyr Gln Val Phe Ser 400
 5697 385 390 395 400
 5699 Ser Pro Thr Thr His Val Ser Asp Ser Arg Tyr Gly Leu Ser Arg Trp 415
 5702 405 410 415
 5704 Arg Val Asp Cys Thr Asp Glu Arg Val Asn Ala His Pro Pro Ser Phe 430
 5705 420 425 430
 5707 Ile Leu Ser Leu Cys Val Cys Glu Arg Ser Ala Tyr Lys Ala Arg Asn 445
 5708 435 440 445
 5710 Lys Pro Leu Phe Ser Pro Arg Thr His His Thr Ile His Thr Leu His 460
 5711 450 455 460
 5713 Pro Leu Leu Leu Arg Ala Phe Ser Pro Ser Phe Leu Val Pro Cys Arg 480
 5714 465 470 475 480
 5716 Pro Ala Ala Thr Ala Thr Ala Leu Thr Arg Ala Ser Ala Cys Lys Ser 495
 5717 485 490 495
 5719 Ser Ser Ile Pro Pro Leu 510
 5720 500 505 510
 5722 Thr Ser Pro Arg Leu Cys Leu Met Ser Arg Leu Phe Pro His Arg Ser 525
 5723 515 520 525
 5725 Ser Lys Leu Arg Ala Leu Leu Gly Asn Ile Ser Asn Thr Ile Cys Ile 540
 5726 530 535 540
E--> 5728 Cys Xaa Arg Ser Thr Leu Ala Glu Glu Leu Gly Phe Ala Phe Ala Gly
 5729 545 550 555 560
E--> 5731 Arg Xaa Glu Thr Ala Thr Val Ser Ile Leu Xaa Pro Lys Xaa Gly
 5732 565 570 575
E--> 5734 Thr Asp Xaa Leu Leu Pro Pro Arg Arg Xaa Ser Asn Leu Gly
 5735 580 585 590
E--> 5737 Leu Xaa Leu Ile Thr
 5738 595
 5741 <210> SEQ ID NO: 40
 5742 <211> LENGTH: 590
 5743 <212> TYPE: PRT
 5744 <213> ORGANISM: Musa acuminata
 5746 <400> SEQUENCE: 40
 5747 His Trp Tyr Gly Ala Pro Leu Glu Val Asp Gly Ile Asp Lys Leu Ser 15
 5748 1 5 10 15
 5750 Leu Leu Ser Ile Ser Leu Ser Leu Ser Leu Ser Leu Cys Met 30
 5751 20 25 30
 5753 Ser Leu Asn Met Val Val Met Leu Asn Cys Tyr Val Tyr Leu Gly Gln 45
 5754 35 40 45

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

5756 Thr Val Ser Ile Phe Glu Gln Ile Asn Leu Ala Ile Met Phe Phe Leu
 5757 50 55 60
 5759 Leu Lys Ala Leu Gln Asp Glu Gly Leu Lys Ser His Arg Thr Pro Thr
 5760 65 70 75 80
 5762 5764 Gly Ser Tyr Gly Leu Leu His Ser Glu Gln Pro Trp Asp Val Arg Ser
 5765 85 90 95
 5767 Thr Gln Arg Arg Gly Lys Pro Ala Thr Leu Gly Cys Cys Cys Ser Ser
 5768 100 105 110
 5770 Lys Asp Arg Lys Val Arg Arg Gln Arg Ser Thr Phe Ser Ser Met Met
 5771 115 120 125
 5773 Thr Thr Thr Cys Ser Cys Asn Ile Arg Pro Leu Pro Ser Gly Asn
 5774 130 135 140
 5776 Lys Trp Val Cys Ser Cys Thr Ile Ser Arg Arg Asn Leu Lys Ala Leu
 5777 145 150 155 160
 5779 Gln Ile Ala Val Ser Leu Ser Leu Tyr Thr Phe Leu Leu Leu His Asn
 5780 165 170 175
 5782 Cys Met Leu Arg His Phe Cys Met Asp Pro Asn Met Arg Ser Ile Ile
 5783 180 185 190
 5785 Glu Val Met Gly Arg Ile Tyr Ile Ile Ile Ile Ile Ile Ser Met
 5786 195 200 205
 5788 Gly Leu Asp Leu Ile Arg Pro Lys Thr Ser Phe Lys Ile Gln Pro Tyr
 5789 210 215 220
 5791 Trp Leu Asp Leu Leu His Leu Gln Glu Lys Tyr Asn Lys Asn Asn Lys
 5792 225 230 235 240
 5794 Asn Leu Gly Cys Thr Leu Asn Phe Gly His Tyr Glu Arg Ile Asp Lys
 5795 245 250 255
 5797 Tyr Asn Lys Ile Ile Ile Ile Tyr Ser Leu Arg Phe Thr Phe Tyr
 5798 260 265 270
 5800 Pro Pro Asn Leu Thr Ser Ala Ser Asn Phe His Ile Leu Gly Ser Lys
 5801 275 280 285
 5803 Lys Ser Leu Pro Leu Thr Asp Glu Ile Phe Leu Ile Arg Gly Arg
 5804 290 295 300
 5806 Ile Tyr Asn Ile Tyr Ile Tyr Ile Tyr Leu Phe Ile Arg Phe Pro Phe
 5807 305 310 315 320
 5809 Leu Ser Pro Glu Tyr Glu Ser Thr Ala Ile Ser Ala Lys Thr His Gln
 5810 325 330 335
 5812 Leu Phe Thr Val Asn Ala His Ile Lys Val Glu Ile Thr Phe Lys Phe
 5813 340 345 350
 5815 Leu Glu Ile Ser Asn Lys Ile Tyr Ser Tyr Leu Leu Gln Cys Ser Gly
 5816 355 360 365
 5818 Asp Gly Arg Met Arg Val Ser Ala Ala Cys Asp Leu Cys Gly Gly Asp
 5819 370 375 380
 5822 Glu Thr Lys Thr Arg Thr Ala Asp Asp Thr Lys Ser Ser Pro Pro Pro
 5823 385 390 395 400
 5825 Pro Arg Thr Ser Gln Ile Pro Asp Thr Ala Tyr Pro Gly Gly Val Trp
 5826 405 410 415
 5828 Thr Ala Gln Thr Asn Glu Met Pro Ile Pro Pro Leu Ser Phe Phe Leu
 5829 420 425 430
 5831 Phe Ala Cys Val Arg Gly Ala Pro Ile Asn Lys His Glu Thr Ser Pro

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

5832	435	440	445
5834	Phe Ser Leu Gln Glu His Thr Thr Pro Phe Thr His Tyr Ile Leu Cys		
5835	450	455	460
5837	Phe Phe Glu Pro Phe Arg Leu Pro Ser Ser Ser Asn His Val Asp Leu		
5838	465	470	475
5840	Arg Gln Leu Arg Leu Arg Gln Glu Pro Val Arg Val Ser His Pro Pro		480
5841	485	490	495
5843	Ser Leu His Leu Phe Phe Phe Phe Phe Phe Phe Pro Arg Pro		
5844	500	505	510
5846	Val Cys Val Val Asp Ser Ser His Ile Arg Ala Gln Asn Ser Glu Leu		
5847	515	520	525
E--> 5849	Tyr Gly Thr Ser Ala Ile Leu Tyr Val Tyr Val Xaa Gly Gln Arg Trp		
5850	530	535	540
E--> 5852	Leu Lys Asn Leu Val Leu Pro Leu Gln Glu Glu Xaa Lys Gln Leu Xaa		
5853	545	550	555
E--> 5855	Tyr Xaa Tyr Cys Xaa Arg Lys Xaa Val Leu Ile Xaa Phe Phe Ser Leu		
5856	565	570	575
E--> 5858	Leu Leu Val Xaa Asp Asp Gln Thr Asn Asp Tyr Xaa Leu Leu		
5859	580	585	590
6073	<210> SEQ ID NO: 45		
6074	<211> LENGTH: 2160		
6075	<212> TYPE: DNA		
6076	<213> ORGANISM: Musa acuminata		
6078	<220> FEATURE:		
6079	<221> NAME/KEY: misc_feature		
6080	<222> LOCATION: (511)		
6081	<223> OTHER INFORMATION: Nucleotide 511 is "s" wherein "s" = c or g.		
6083	<220> FEATURE:		
6084	<221> NAME/KEY: misc_feature		
6085	<222> LOCATION: (883)		
6086	<223> OTHER INFORMATION: Nucleotide 883 is "n" wherein "n" = a, c, g, or t.		
6088	<400> SEQUENCE: 45		
6089	ggatccaaac ttttaggaat ggatctaaa attttagtta taagttcaaa gttaaaaaaa	60	
6091	tctttaccaa gagcttgag tccatttgcg acatccgtga aacgggtgtac atgtctccga	120	
6093	tggactcaact tggtttcatt cgaaaaagt cggaaagagt cataagaata ttgattttgg	180	
6095	attcttcac tcgggttggtg ccttcatgag tgacctcaag agtcctccaa atatcaaaag	240	
6097	ccgaatcaca aattgaaatg tgattgaatt cattttgtc taatgcacaa aacaggccat	300	
6099	tcatagcctt tgggtttaaa gcaaaaacat tcttctccga ttcatccccat tcgctcatcg	360	
6101	gaagagaaaa ttttggaaat ccattttcga caatagacca aagctcgaaa tccatgcatt	420	
6103	gaaatgagga agatcctcat atgagtttc caatacatgt aattcactc attaaacata	480	
6105	ggtgatgtg taatgaaatg accctcatgc sctatctctc ttgggttata aaccaaataat	540	
6107	gagagtggc cttgctctga taccaattgt taggatcaga gtggcactaa gagagggggg	600	
6109	gagtgaatta gtgcagtggta taaaactta taagttaaa aatgaattcg taaatacgag	660	
6111	aagatttcgt ttaatagta acttgagtag atgaaaacca aaagttAACa gtgtgtaaa	720	
6113	taacaatttc gggaaagtaa gaactcacac attcaaggaa cataccaatt taaagtggtt	780	
6115	cggtaaaaat gacctacatc cacttgtgaa gccttctcg aagaggctcc caacttccac	840	
6117	tagcaaatca ctttgaaggga gaaggacaaa tacctctctt acnacctttt acaatggttc	900	
6119	atactttac aaattttcaa cgagaaagaa ggaggtgaac atgcaagcaa ttgaaaacaa	960	
6122	gacttgctaa agactttgct aaggctttt ttctcaatct attgcttctc aaaagttgt	1020	

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Input Set : A:\pto.amc.txt
Output Set: N:\CRF4\03202003\I892635.raw

6124	ttctctgctg	agaattgagg	ggtatttata	gacccaaga	ggattnaat	ttgggctcca	1080
6126	aatttcgaat	gctcttggt	tcccgaggt	gccgggtgcca	ccgcctgtca	gtgttgaca	1140
6128	ctggacagtg	tactagcgt	gccaccggc	gacctctcg	gtgttggcg	gtgccaccgc	1200
6130	ctagacttt	tcagctca	ggttggattc	caaacttgc	ccaaaccagt	cggactcgg	1260
6132	gtccaattga	cccgtaaccg	gattatagga	ttaaccctta	atcctaacc	taatttatatg	1320
6134	caaactacgc	aactgaaaat	atagtcctaa	gcaagtttt	aaccggcaaa	cgtcgagtct	1380
6136	tcttccggcg	atcttcggc	agacttctga	tataccttg	gatttcttct	agcggactcc	1440
6138	tagtagggtc	ccgatctgt	ggcgagttt	gcgagtagcc	gaaccttctc	ggtgatctcc	1500
6140	gcaaaccgc	gatgatctct	tcggcagact	tgcgaaaact	tcgacaagtc	cccgatttct	1560
6142	tctcggttgg	ttccgacagc	atctctaac	aaacttcgg	ctccttgaat	gtccatcgaa	1620
6144	cttgactccg	gtaggcttgc	tttataat	caggctatca	tagttatcc	tacatactta	1680
6146	actcaataat	atggattaga	ttaattaacc	catcaattga	tttcatcatc	aaaattcgcac	1740
6148	attcaacaaa	catccgtact	caataaccca	tcaaggctata	gttacgtac	tatctactgt	1800
6150	gatccgtacg	tgaagttagc	gagtcatgt	ccaggtcg	tcacttattg	gccgaacacg	1860
6152	tatcccttat	ccaaatccag	tcttctcaac	tcttcttagcc	tacccgtctc	ttttttatt	1920
6154	acttttggaa	gaattcaat	caaaacagat	acaaaataac	acggtgagac	actgtgacat	1980
6156	gctagtctct	ggaaagcatt	aattcgcgc	tccacagacg	tcgtcagctt	catcacccac	2040
6158	ttttcctac	ataccatgtc	gcatggctt	gttcatgaca	gaccaccaca	agcttgcctt	2100
6160	taagttgtgcc	taacagagag	agagagagag	acagaccat	agcctcctca	ttcaccatgg	2160

E--> 6165 - 101 -

(circled) *delete*

See p. 43 for more errors

Use of n and/or Xaa has been detected in the Sequence Listing.
Review the Sequence Listing to insure a corresponding
explanation is presented in the <220> to <223> fields of
each sequence using n or Xaa.

FNT →

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<210> 42
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer. *O ← delete*

<400> 42
gatcgccatg gtgaatg

17

The types of errors shown exist throughout
the Sequence Listing. Please check subsequent
sequences for similar errors.

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Use of n's or Xaa's(NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing.

Use of <220> to <223> is MANDATORY if n's or Xaa's are present.

Use of <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

Seq#:9; N Pos. 163,387,471
Seq#:22; N Pos. 82,601,628,640,655,692,725,774,793,806,813,854,867,870,876
Seq#:22; N Pos. 882,890,919,946,959,965,995,999,1002,1028,1043,1054,1075
Seq#:22; N Pos. 1093,1515,2166,2216,2265,2345,2533,2870,2917,3077,3337,3356
Seq#:22; N Pos. 3618,3627,3754,3810,3819,3884,3893,4494,4503,4524,4533,4568
Seq#:22; N Pos. 4574,4597,4654,4724,4741,4759,4852,5027,5253,5546,5565,5567
Seq#:22; N Pos. 5575,5578,5618,5619,5650,5669,5672,5677,5683,5694,5704,5708
Seq#:22; N Pos. 5732,5741,5754,5758,5772,5778,5780,5784,5788,5802,5804,5808
Seq#:22; N Pos. 5813,5820,5824,5832,5834,5836,5854,5858,5863,5872,5875,5889
Seq#:22; N Pos. 5915,5922,5950,5990,6006,6011,6344,6401,6416,6596,6600,6608
Seq#:22; N Pos. 6612,6712,6748,6753,6756,6762,6830,6844,6847,6863,6910,6965
Seq#:22; N Pos. 6968,7070,7116,7179,7291,7322,7325,7345,7351,7359,7387,7395
Seq#:23; N Pos. 82,601,628,640,655,692,725,774,793,806,813,854,867,870,876
Seq#:23; N Pos. 882,890,919,946,959,965,995,999,1002,1028,1043,1054,1075
Seq#:23; N Pos. 1093,1515,2166,2216,2265,2345,2533,2870,2917,3077,3337,3356
Seq#:23; N Pos. 3618,3627,3754,3810,3819,3884,3893,4494,4503,4524,4533,4568
Seq#:23; N Pos. 4574,4597,4654,4724,4741,4759,4852,5027,5253,5546,5565,5567
Seq#:23; N Pos. 5575,5578,5618,5619,5650,5669,5672,5677,5683,5694,5704,5708
Seq#:23; N Pos. 5732,5741,5754,5758,5772,5778,5780,5784,5788,5802,5804,5808
Seq#:23; N Pos. 5813,5820,5824,5832,5834,5836,5854,5858,5863,5872,5875,5889
Seq#:23; N Pos. 5915,5922,5950,5990,6006,6011,6344,6401,6416,6596,6600,6608
Seq#:23; N Pos. 6612,6712,6748,6753,6756,6762,6830,6844,6847,6863,6910,6965
Seq#:23; N Pos. 6968,7070,7116,7179,7291,7322,7325,7345,7351,7359,7387,7395
Seq#:23; N Pos. 6968,7070,7116,1717,181,193,204,220,227,231,233,247,251,254
Seq#:24; Xaa Pos. 25,164,173,177,181,193,204,220,227,231,233,247,251,254
Seq#:24; Xaa Pos. 259,269,278,282,284,294,296,305,310,314,320,326,458,656
Seq#:24; Xaa Pos. 673,687,713,774,883,899,952,1038,1043,1163,1180,1183,1202
Seq#:24; Xaa Pos. 1204,1397,1400,1412,1414,1422,1441,1462,1468,1474,1504
Seq#:24; Xaa Pos. 1559,1729,1735,1736,1739,1740,1753,1764,1770,1771,1773
Seq#:24; Xaa Pos. 1775,1778,1782,1783,1791,1794,1800,1806,1807,1808,1810
Seq#:24; Xaa Pos. 1815,1818,1822,1825,1826,1832,1833,1835,1837,1838,1842
Seq#:24; Xaa Pos. 1851,1863,1876,1881,1883,1991,2009,2014,2071,2075,2109
Seq#:24; Xaa Pos. 2120,2121,2122,2124,2147,2151,2152,2157,2169,2187,2188
Seq#:24; Xaa Pos. 2221,2236,2257,2293,2303,2304,2310,2312,2323
Seq#:25; Xaa Pos. 27,160,169,173,190,200,216,222,227,229,243,247,248,250
Seq#:25; Xaa Pos. 252,255,273,278,280,290,291,292,301,306,459,654,669,685
Seq#:25; Xaa Pos. 710,767,878,893,944,1029,1104,1107,1162,1164,1182,1185
Seq#:25; Xaa Pos. 1372,1375,1379,1382,1393,1395,1417,1440,1445,1450,1475
Seq#:25; Xaa Pos. 1533,1666,1672,1673,1676,1690,1706,1707,1714,1719,1727
Seq#:25; Xaa Pos. 1730,1734,1740,1742,1743,1744,1750,1751,1752,1754,1756
Seq#:25; Xaa Pos. 1757,1760,1761,1769,1770,1773,1779,1788,1790,1799,1813
Seq#:25; Xaa Pos. 1818,1820,1930,1949,1954,2011,2012,2015,2016,2058,2060
Seq#:25; Xaa Pos. 2061,2063,2083,2087,2088,2092,2106,2122,2123,2156,2171
Seq#:25; Xaa Pos. 2191,2224,2235,2236,2247,2258

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Seq#:26; Xaa Pos. 23,196,205,209,214,226,254,260,264,267,284,285,287,289
Seq#:26; Xaa Pos. 301,309,313,315,327,328,345,352,358,494,697,713,728,813
Seq#:26; Xaa Pos. 939,991,1076,1081,1165,1167,1208,1226,1229,1250,1253,1442
Seq#:26; Xaa Pos. 1445,1452,1455,1465,1474,1492,1511,1517,1523,1549,1604
Seq#:26; Xaa Pos. 1676,1770,1777,1780,1781,1794,1795,1805,1812,1814,1816
Seq#:26; Xaa Pos. 1820,1823,1832,1835,1840,1841,1846,1847,1849,1850,1855
Seq#:26; Xaa Pos. 1857,1861,1862,1864,1865,1871,1872,1874,1877,1878,1883
Seq#:26; Xaa Pos. 1894,1903,1916,1922,1923,2034,2053,2058,2114,2118,2144
Seq#:26; Xaa Pos. 1894,1903,1916,1922,1923,2034,2053,2058,2114,2118,2144

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L:13 M:270 C: Current Application Number differs, Replaced Application Number
L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:357 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:120
M:341 Repeated in SeqNo=9
L:1562 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:60
M:341 Repeated in SeqNo=22
L:1880 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:60
M:341 Repeated in SeqNo=23
L:2144 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:24
M:340 Repeated in SeqNo=24
L:2601 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:25
M:340 Repeated in SeqNo=25
L:3045 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:26
M:340 Repeated in SeqNo=26
L:3542 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:840
M:341 Repeated in SeqNo=27
L:3726 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:840
M:341 Repeated in SeqNo=28
L:4100 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:29
M:340 Repeated in SeqNo=29
L:4216 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:30
M:340 Repeated in SeqNo=30
L:4531 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:31
M:340 Repeated in SeqNo=31
L:4872 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:1680
L:4966 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:1680
L:5104 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:34
L:5255 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:35
L:5414 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:36
L:5528 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:1680
M:341 Repeated in SeqNo=37
L:5608 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:1680
M:341 Repeated in SeqNo=38
L:5728 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:39
M:340 Repeated in SeqNo=39
L:5849 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:40
M:340 Repeated in SeqNo=40
L:5973 M:283 W: Missing Blank Line separator, <220> field identifier
L:6026 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:840
L:6117 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45 after pos.:840
L:6165 M:254 E: No. of Bases conflict, this line has no nucleotides.